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ABSTRACT

The twelve papers in this volume were presented at the annual meeting of the American Academy of Physical Education in 1980. The topics addressed were: (1) the position of the American Academy of Physical Education on its roles and responsibilities to those involved in physical education; (2) social influences on the ancient and modern Olympic Games; (3) future directions of athletic amateurism and the Olympic movement; (4) joint biomechanical filming project by the United States and the Union of Soviet Socialist Republics in 1979-1980; (5) the growth of sport sociology; (6) values inherent in participating in sports; (7) play and sport as moral education; (8) research and use of sport psychology for the Olympics; (9) research findings on maximal oxygen uptake (VO2 max) and their application to sports performance; (10) implications of the Olympic games for physical education curricula; (11) the importance of competition and the breaking of athletic records; and (12) the spirit of the Olympics versus boycott. This last paper was the R. Tait McKenzie Memorial Lecture. An appendix provides lists of the members and fellows of the academy as of May, 1980 and of its presidents from 1926 to 1981. (FG)

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THE ACADEMY PAPERS

No. 14

CITIUS, ALTIUS, FORTIUS: FASTER, HIGHER, STRONGER

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Fifty-first Annual Meeting, Detroit, Michigan

April 8-10, 1980

A Publication of

THE AMERICAN ACADEMY OF PHYSICAL EDUCATION

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Editor

M. GLADYS SCOTT

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Designed by

R. TAIT MCKENZIE

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THE AMERICAN ACADEMY OF PHYSICAL EDUCATION

Statement of Purpose

The dual purpose of The American Academy of Physical Education shall be to encourage and promote the study and educational applications of the art and science of human movement and physical activity and to honor by election to its membership persons who have directly or indirectly contributed significantly to the study of and/or application of the art and science of human movement and physical activity.

The Academy shall promote its dual purpose by means of recognizing and encouraging the continued exemplary, scholarly, and professional productivity of its individual members; synthesizing and transmitting knowledge about human movement and physical activity at annual scholarly meetings and via publications of Academy Proceedings; fostering philosophic considerations regarding purposes of and issues and values related to human movement and physical activity; annually bestowing honors for outstanding contributions to the field of physical education.

— APPROVED MARCH 17, 1977

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CONTENTS

THE ACADEMY — TODAY AND TOMORROW, Harold M. Barrow 7

THE ANCIENT OLYMPIC GAMES, Earle F. Zeigler 11

FUTURE DIRECTIONS OF ATHLETIC AMATEURISM AND THE OLYMPIC MOVEMENT, John A. Lucas 15

JOINT U.S. AND USSR OLYMPIC BIOMECHANICAL FILMING PROJECT, Richard C. Nelson 20

GROWTH OF SPORT SOCIOLOGY, George H. Sage 24

VALUES OF BEING IN SPORT, Peter J. Arnold 31

PLAY AND SPORT AS MORAL EDUCATION: THE PROBLEM OF *IS* AND *OUGHT*, Roberta J. Park 34

SPORT PSYCHOLOGY IN PREPARATION FOR THE OLYMPICS, Dorothy V. Harris 43

DEVELOPMENTS IN EXERCISE PHYSIOLOGY AND APPLICATION TO HUMAN PERFORMANCE, Francis J. Nagle . 49

THE OLYMPIC MOVEMENT AND PHYSICAL EDUCATION, Betty Spears 65

RECORDS ARE MADE TO BE BROKEN, Harold T. Friermood ... 73

THE SPIRIT OF THE OLYMPICS VERSUS BOYCOTT, Irving I. Dardik 77

APPENDIX

New Members 84

Citations and Awards 84

Roster of Academy Members 85

Past Presidents 96

The President's Address:

THE ACADEMY — TODAY AND TOMORROW

Harold M. Barrow

As we leave the unconstrained relativism of the "me" decade of the 1970s symbolized by contradictions and crises of confidence, we slip somewhat apprehensively into the new decade of the 80s. Since the future is always opaque, we may ponder what labels history will place on this new decade of adventure.

Last year in the Academy we examined issues and challenges facing us from a variety of viewpoints and the spin-off their solutions may have in our field. The previous year we studied ourselves searching for answers to some key problems. It became clear that many of these problems and issues have emerged from change triggered largely by vast increases in information and technology. This explosion of knowledge and technology has led to one of our biggest problems — the complexity and proliferation in both the profession and the discipline.

Although this essay is entitled "The Academy — Today and Tomorrow," it might well have been called "The Seduction by Overspecialization in Physical Education." Like most subjects there are two sides of this coin of reality and to appreciate the whole coin, one must understand both sides.

Pluralism in Education

We deal in education, and education is a process that cannot achieve its ends effectively in a fragmented or piecemeal format. These ends are like a fabric that must be woven together in a blend of welded disciplines always with some overriding pattern and preeminent purpose. Yet, it is paradoxical that the very nature of the interdisciplinary approach fosters greater complexity and proliferation, tending to fragment us even further.

American education has always been characterized by fragmentation and self-interest groups. Physical education may be more guilty of this fragmentation than most disciplines. I once heard a university defined as an aggregate of departments and schools held together by the common bond of a single heating system. While our common bond may be a central focus called "human movement" instead of a heating system, we draw our subject matter from a wide area of educational entities, each having its own unique focus with a rapidly expanding body of knowledge based on research and philosophical inquiry. This has led to the transformation of both our field of study and our profession into the same specter of pluralism and self-interest pervading society in general. Perhaps it is this trend toward self-interest groups that earned the 70s the label, the "me" decade.

We live in an age when never before have so many known so little about so much. As we stand on the edge of history viewing our past in the Academy, we look back on a time when our pioneer Fellows knew almost all of the body of knowledge in their field. Today's avalanche of new data and knowledge, however, leaves us little choice but to be selective in our interest, training and expertise.

The pluralism in our mini-society has triggered new technology and methodology with vastly different thrusts and orientation causing professional pathways to diverge still further. There is a chain reaction with more proliferation leading to polarization and specialization. These lead on into special fields directed by special interest groups. Therefore, our body of knowledge has been transformed into a large number of subdisciplines and our profession into many specialties. Some of these specialties have become the modern Pantheons of physical education as they seem to have an esoteric appeal to our bright young professionals who tend to look upon these specialties as ends to be understood rather than as means to understanding.

Pluralism has another effect. Specialization into subdisciplines generally leads to a language of its own to describe its body of knowledge and technology (Horowitz 1979). Although this is laudable and necessary, it frequently leads to a loss in communication. A few short years ago we were accused of not being able to communicate with scholars from other disciplines; now we are having difficulty communicating with each other.

Regardless of these negative points, however, we must acknowledge that the rise of specialization is not a sign of weakness but one of growth (Horowitz 1979). It is vital in a world where new knowledge and technology have become life support systems. Also, in physical education we need high level specialization to counter the folk science with which we have manacled ourselves these many years.

There are, however, some caution lights down the road bothering many of us. It may be that without acknowledging the pitfalls of specialization, it can lead to a questionable overemphasis and fragmented point of view. It can lead to such a lofty tower of Babylon featuring specialized knowledge, technology and expertise that its builders and occupants tend to isolate themselves from those in other towers of academe. Or in some cases the specialist, believing that all the learning he needs rests at the bottom of a well, adopts a post hole deep philosophy and rarely comes to the surface to observe the wider world around him. Such overspecialization is a pervasive element in our field and a denial of the integrative realm of synoptics (McCristal 1975; Bernard 1970).

The "Holistic" Concept

If pluralism is one side of the coin of reality, the other side is the "holistic" concept of mankind — the idea that we experience life, work and each other as whole human beings (Rosenfeld 1977). We are macroscopic rather than microscopic. The living holistic mind-body system is an integrative entity and can be

fragmented only for convenience. The dissected body is always dead. If we accept this concept, then physical education as a discipline which studies the whole of man in human movement is by nature an inseparable reality — a non-divisible entity — and its fragmented subdisciplines, triggered by pluralism, can have little meaning as isolated entities (Ascham 1962, p. viii).

This holistic concept is a hallmark of our profession. It may be a triumph of hope over our past experience but in the Academy, of all places in our profession, we must not just give lip service to this principle but actually practice it. In this Academy our ability to communicate should transcend our subdisciplinary lines. King McCristal, in his Academy Presidential Address (1975), remarked that all knowledge in our field is on a continuum and therefore our subdisciplines are continuously related. We need thinkers and doers who will acknowledge this transcendence for without it there is always danger that narrow specialization will irresistibly lead to erroneous inferences (Helms 1979). Unless specialists grasp an understanding of the total field and its relationship to their own subspecialty, they will always have difficulty achieving enough depth in their own specialty to give their judgments the credibility that scholarship merits. Only when we can link the two sides of our coin of reality together into a whole coin we can consciously compensate for the overspecialization syndrome now emerging as a divisive force in our profession (James 1970).

Future Role for the Academy

What does the future hold for the specialist outside this Academy? There is little doubt that as proliferation of knowledge and technology continue, these special groups with vested interest will become even more splintered. They will thrive either as autonomous units to themselves, or under the auspices of NASPE in almost the same manner as the setting nurtured by the umbrella of AAHPERD. There is little guarantee that these groups, many of which are called academies and councils, can ever get together regularly for a meeting of the best minds. The current mechanisms will continue to promote further proliferation, self-interest, monologue and barrier setting. Therefore, we must look elsewhere to solve our problems caused by pluralism.

It is my conviction that the American Academy of Physical Education is the only place where high caliber specialists in the various subdisciplines can assemble on a regular basis. Such interaction could provide an integration and synthesis function that no other national organization is now meeting.

This Academy has a heritage of more than 50 years of bringing together the best minds and professional expertise in the field. However, in recent years, as proliferation into specialties has happened, we have dragged our feet in bringing into membership deserving scholars in those subdisciplines. We are now trying to remedy this situation by identifying, defining and interpreting all specialties within the purview of our domain. To bring into our membership the top scholars from each of these groups, I strongly recommend eliminating the constraints of an upper limit on membership and set only excellence in scholar-

ship and leadership as the criteria for membership in this Academy. Only then can this society become the bridge that spans the communication gap emerging between the subdisciplines.

We have been accused and have even accused ourselves of talking to no one but ourselves, of being non-action oriented and spending inordinate time and effort on the trivia of Academy business. After two years as your president and president-elect, I concede there is much validity to these points; however, I will remind you of our dual purpose. The first purpose is purely honorary and if this society had no other reason for being, that cause alone would justify its existence. Beyond this purpose, though, is the charge to provide professional interaction and position statements on critical issues, to disseminate such statements, to synthesize the interdisciplinary components, and to provide an active forum for open discussion. The key word here is "synthesize" which translated implies "to combine into a complex whole." Perhaps in the Academy, our chief role might be to serve as catalysts in re-synthesizing and putting together again into a meaningful whole our too often fragmented selves (Rosenfeld 1977).

As futurists in the Academy, we will remain specialists. Nudged on by the velocity of events surrounding us, more and more of our members will be specialists. In fact, in the future there may be little place for generalists as we have defined them in the past. However, high caliber specialists must never ignore that rare quality of synthesis which generalists have generated and left as their legacy to our field, but especially to this Academy.

Here in the Academy we can strive for an Athens of learning. To do this, however, we must forge greater bonds of communication and understanding among ourselves (Helms 1979). If we are to form this community of scholars, we must have high caliber specialists who are at home with each other and who share a sensitivity to each other's subdiscipline while displaying a certain loyalty to the broader spectrum of our physical education coin of reality. In our commitment to high level scholarship as specialists, we have a common mission to cultivate mutual respect and basic trust in each other and professional pride in the total field. In such a setting perhaps we can pursue what poet James Dickey terms "the infinitudes of our possibilities" (1980).

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THE ANCIENT OLYMPIC GAMES

Earle F. Zeigler

Any effort to describe the history of the early Olympic Games is hampered because, like narratives about the historic Jesus Christ, "the bulk of our information is derived from writers whose evidence as to what took place many years before their time must always be received with a certain amount of reserve" (Gardiner 1910, p. 194). There are many unanswered questions about this subject, and undoubtedly there always will be. Yet we in the field of sport and physical education are fortunate that people like Krause, Gardiner, Jüthner, Harris, and Robinson devoted themselves so completely and capably to unravelling this magnificent tale for us. (This is not to discount, of course, the fine work by Kunze, Schröder, Delorme, Ebert and others.) The important point here is that a significant variety and number of historical tools are necessary to carry out such investigation capably, and any contribution we might make to this topic should be based on unique knowledge or on a different approach.

This brief essay on the ancient Games will be viewed with an eye to the social forces and the professional and general educational aims of the physical educator of the times. This approach will allow us to make a comparison with the present situation in regard to one or more criteria.

Social Forces

In examining the social forces, we must understand the difficulty of viewing an ancient culture through the eyes of a twentieth-century citizen of the Western world and appreciate that our cultural aims are indeed ideals, not realities, and are therefore a sort of disguise under which we labor. When this century is described by future historians, these ideals will not be recorded as historical accomplishments. Nevertheless, there are some points that may be made with reasonable certainty about the free citizens of ancient Greece, but at the same time we must recall that a multitude of slaves enabled their masters to achieve a fleeting ideal; that Athenian young women were occasionally heard from before marriage but almost never heard from thereafter; and that changing social conditions may never again make possible such a presumably halcyon state (assuming that subservient women and slaves could ever be found to make it possible).

The physical education/sport theorist can, therefore, point to the fact that his/her subject-matter or discipline was rated very highly in the production of the best possible citizen. (I am presuming that all of us in the field of physical education and sport accept the Athenian conception for both men and women rather than the Spartan goals of physical perfection for warfare, strong emphasis on tradition with almost no innovation and individual subordination to the state.)

Freeman reported that the Athenian "demanded of the ideal citizen perfection of body, extensive mental activity and culture, and irreproachable taste" (1922, p. 276). In addition to these goals, the training of young people's character was an overriding consideration. The belief was that virtue could be taught and therefore such moral qualities as fidelity to the city-state, honoring the gods and one's ancestors, determination, fortitude, obedience to the laws, and willingness to sacrifice should be the end results of education. As Durant reports, it was "an excellent combination of physical and mental, moral and esthetic training, of supervision in youth with freedom in maturity; and in its heyday it turned out young men as fine as any in history" (1939, p. 290).

The Classical Age of ancient Greece did not spring into being within the confines of one century. Woody explains that Athenian education, for example, underwent significant transformation occasioned by changing social conditions, and that the three major periods can be designated "Native Athenian, Transitional, and Cosmopolitan" (1949, p. 285). Thus, the possible relationship of differing emphases in Athenian education to the time and energy devoted to the physical training of boys and young men and resultant success or failure at the Olympic Games (or any other of many athletic festivals) warrants further investigation. For example, Gardiner reports that from 720 B.C. to 576 B.C. Sparta's athletes were unusually successful at Olympic Games, but that thereafter there was a dramatic decline in their success (1910, p. 56). Granting that this state kept very careful records of their victories because of their great concern for such achievement, considerable credence may be given also to Aristotle's explanation that Sparta got a headstart on the other city-states with systematic military and other strenuous physical training, and then the other states gradually caught up with Sparta (Aristotle, *Politics*, Book VIII).

Viewed from a somewhat different standpoint, Gardiner reports that there was quite a difference in the calibre of performance between the seventh and sixth centuries. Because natural ability and a reasonable amount of training no longer guaranteed success, "there arose a class of professional trainers . . . . In their hands athletics became scientific; instead of being regarded as a recreation and a training for war they became an end in themselves" (1910, p. 81). Sparta did not succumb to the pressures to modernize their approach to the Games, however, and their names appeared on the lists of winners much more infrequently. Spartans were forbidden to have wrestling trainers or participate in boxing at the Games' level even though they had introduced it as a valuable sport. Basically, they were disinterested in competition that did not influence their warrior status directly, or, in the case of boxing and the pankration, a Spartan would be disgraced if he were to admit defeat. This, then, was the beginning of the period of the so-called professional amateur (Gardiner 1910). Today I believe we would call this type of athlete a semiprofessional, a term that this writer does not automatically regard as one of denigration.

It is interesting to recall the admonition of Plato and his pupil Aristotle. In *The Republic* Plato has Socrates discuss various aspects of early education. He

points out that compulsory physical exercise does not hurt the body, but he decries the acquisition of knowledge under conditions of strict requirement. Plato continues with the following warning (as spoken by Socrates):

> At the age when the necessary gymnastics are over: the period whether of two or three years which passes in this sort of training is useless for any other purpose; for sleep and exercise are unpropitious to learning; and the trial of who shall be first in gymnastic exercises is one of the most important tests to which our youth are subjected. (Book VII)

Based on this statement, if Plato were living today, he might be in favor of lighter academic workloads when an athlete is training for championship competition.

Aristotle conversely does not have the same enthusiasm for sport and exercise. This is why Plato — despite the fact he was the first to dichotomize the human body so clearly that we are still undecided whether he is our field's "patron saint" or "patron devil" — is quoted much more by physical educators than Aristotle. Aristotle felt that those states seeking to produce great athletes by overemphasis on the young "only injure their forms and stunt their growth." He did not believe that "athletics builds character," especially the more strenuous activities. For example, he states that the Spartans "brutalize their children by laborious exercises which they think will make them courageous." He said, "parents who devote their children to gymnastics while they neglect their necessary education in reality vulgarize them." Still further, "the evil of excessive training in early years is strikingly proved by the example of the Olympic victors, for not more than two or three of them have won a prize as boys and as men" (*Politics*, Book VIII). Today this is still a controversial topic. Finally, it is clear that Aristotle felt that "the labor of the body impedes the mind, and the labor of the mind the body . . . ." — a dictum that many still believe today, and one that we in physical education and sport have been combatting ever since.

Professional and General Education Concerns

In the future, consideration will be given to other social forces affecting the spirit and conduct of the Olympic Games both in the past and at present — such influences as politics, nationalism, economics and religion. Also, it will be important to examine the impact of these forces on both the professional concerns of this field and the general educational concerns, as identified by this writer elsewhere (Zeigler 1977, pp. 6-7). Professional concerns related to sport include its relationship to the use of leisure and to the healthy body; classification of amateurism, semiprofessionalism and professionalism; the relationship of women to highly competitive sport; management theory and practice applied to sport; curriculum in sport for professional preparation and for general education; teaching and/or coaching methodology; and the ethics of coaching.

It is clear that the social force described above — societal and educational values — and the influence that it and other social forces have exerted on general education and professional preparation in both ancient and current times — bear a striking resemblance. Although the ancient Olympic Games continued for more than one thousand years, the modern Olympic Games, organized in 1896, are already in trouble. We are wondering whether they will be held this year in Moscow and again in Los Angeles in 1984. As society grows more complex, it is impossible for the Games to escape various societal influences. To us the Olympic Games are a truly worthwhile enterprise. We have a strong professional obligation to assist in every way possible.

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FUTURE DIRECTIONS OF ATHLETIC AMATEURISM AND THE OLYMPIC MOVEMENT

John Lucas

Pierre de Coubertin's cosmopolitan tendencies were formed early, as was his conception of the role of sport. The Olympic Games were to him, at least in the early days of the modern movement, the final test of the educative-ameliorative effects of competitive athletics. He felt that sport was a means to an end, an "upliftment of mind, strengthening of moral character and physical power."

Sport on the scale and level conceived by de Coubertin furnished a conspicuous example of fair play and international understanding regardless of race, religion, or political convictions. Such was his frustrating habit of asking too much of sport, an understandable sin in one steeped in Romantic literature and constitutionally a visionary mystic. It was his belief that no education can be good or complete without physical education and competitive athletics. But if they are to play their proper educational role, he said, "perfect disinterestedness and the sentiment of honor" must always be included.

The Olympic founder had unbounded faith in the power of the "pure amateur spirit" of Olympism, and saw in the world of the future a supreme role for sport, that of "promoting progress and social unity." The idealistic Baron always considered his form of sport a blending of the very best of ancient Athens, the idealized medival knight, and the stuff from which the best of England's nineteenth century leaders were made. To de Coubertin, the gradual spread of athletic interest throughout late nineteenth and early twentieth century Europe was a "pedagogical revolution." Not for centuries, he pondered, had physical culture been regarded as an instrument capable of increasing human happiness. To him, sport was one of the most effective means of strengthening human personality. "It was for this very purpose that I have revived the Olympian Games," he said in the banner year of 1896.

The concept of unity dominated de Coubertin's intellectual life and became part of his Olympic philosophy. His faith in the usefulness of amateur athletic training and competition was based on the ancient Athenian assumption that mind, body and spirit were interdependent. He hoped that in his lifetime modern societies might emulate the best that the Greeks had to offer. He called this "best" by the name *Olympism*. None of it must be done frivolously, but be organized and regulated, yet entered into joyfully. He saw the necessity for reestablishing the Olympic Games as a supreme consecration of personal and unselfish motives. Anyone who studies the ancient Greek games at their best, he said, "will perceive that their deep significance was due to two principle elements: beauty and reverence. If the modern Games are to exercise the influence I desire for them, they must in their turn show . . . a beauty and reverence infinitely surpassing anything hitherto realized in the most important athletic contests of our day."

Religion, Peace, Beauty

de Coubertin defined Olympism in scores of different ways. However, three words continually emerge from his writings: religion, peace and beauty. No philosophy or religion, he maintained, preached loftier sentiments than these. And he did view Olympism as "a religion with church, dogma and cult," with himself as its high priest. In the very early centuries of the ancient Greek Games, religion was indeed at the core of the sacred festival. de Coubertin asserted that the whole Olympic Movement, encompassing much more than the Olympic Games themselves, must enlighten youth "as adherents to the religion of sports." As in Christendom, the early disciples actively shared their beliefs with all those they touched, similarly de Coubertin and his followers, in true Messianic fashion, spread the message of amateurism in sport. To them it was the only kind of sport; all the rest was display and gladiatorial entertainment.

de Coubertin attempted to ignore the passage of twenty centuries and reintroduce the anthropomorphic concept into the modern Olympics. He hoped the Olympic Movement and its most glamorous emanation, the Games, might promote a better and more peaceful world. A small nucleus of his friends jumped on the bandwagon, essentially agreeing with his idea of Olympism as a medium of international conciliation and precious opportunities for forging ties of friendship. Like many good men, de Coubertin was incurably romantic; he loved what R.R. Palmer called "the mysterious, the unknown, the half-seen figures on the far horizon." He was sure that eventually his ideas would contribute to a grand internationalism and play an important role in what de Coubertin's friend, Albert Shaw, called "the supreme task of binding together rival nations, and relegating the barbarism of war to an evil past." All of this was said in less strident times, in a period that prompted Alfred Nobel to award his first peace prize (1901), convincing many that the world was headed for unprecedented peace and prosperity.

The beauty of Olympism, de Coubertin's third theme, was the most realizable outcome of sport participation. The Greeks worshipped physical beauty; so did de Coubertin. Without athletics, Greek art and the Greek concept of beauty would have been impossible. During their best days, the ancient Greek games included rhythm, art, beauty and balance. de Coubertin's inclusion of art competitions in the 1912 Stockholm Olympic Games (and all Games through 1936) was his declaration of the inseparability of beauty and well-executed sport.

Early Reactions to the Olympics

The *Century Magazine* of April 1896, putting its editorial best foot forward, wrote that it hoped the new Olympic Games would reduce athletic brutality and excess and replace them with fairness and moderation. In an age breathing the last gasps of a century-old Western Romanticism, it did not seem out of place for Olympic advocates to use words like "honor," "peace" and "beauty." As long as he was editor of the *American Review of Reviews*, Albert Shaw supported de Coubertin's brand of Olympism, calling the Frenchman

"the De Tocqueville of our day." A few days after the first Olympics were held in Athens in 1896, archaeologist Charles Waldstein wrote that he hoped the temporary federation of nationalities so necessary at the Games would eventually lead to a rise in the level of mankind's physical fitness and especially to a kind of protracted "Ekecheiria" or sacred truce. It was easier to accept such a concept in 1896 than today, but the idea persists.

No one was more critical of the early Olympic Games' ineptness than the influential sportsman, Caspar Whitney. Yet in 1900 he recognized that the rising concern for health, the growing preoccupation with sport "is not a craze" but a permanent manifestation of Western society, and the Olympic Games an inexorable part of this growth. Even the usually critical editor of *The Nation*, in an editorial following the unofficial Athenian Olympic Games of 1906, admitted that at least the host nation's youth discovered "a new athletic life," the masses a vibrant, animated spirit. William N. Bates, director of the American School at Athens that same year, agreed, marveling at how "deeply and seriously" all Greeks reacted to the new form of physical culture. Author, lecturer, and the first person to win a medal at a modern Olympic Games, James B. Connolly, wrote to *Outing* magazine in April 1906 that "the spirit of the Olympian Games" was real and, he hoped, would "receive a fresh and lasting impulse."

The 1908 Olympic Games were filled with controversy, prompting *The Times* of London to soberly conclude that the Games could encourage international understanding but only if they are extremely well organized and so impartial "that every competitor, whether he has won or lost, goes away . . . feeling that every opportunity has been given and every courtesy shown to him." This ultimate standard has yet to be achieved, and represents a fundamental Olympic tenet.

Philip J. Baker was a recent graduate of Cambridge University in 1912. He had placed sixth in the 1500 meter Olympic final, and reflected back on the larger concept of the "Olympic Idea":

> Is it so fantastic to believe that the provision of a sane . . . rivalry of nations will help — slightly perhaps . . . in breaking up the absurd fabric of "routine thinking" on which the present system of international relations rests? If we can believe such a fantasy, if we can see in the future possibilities greater than the present shows, then we shall enter with redoubled ardor into the Olympic contest impelled not only by enthusiasm for the trial of strength itself, but also by devotion of the idea that lies behind it.

The perceptive 23-year-old Englishman had, of course, captured the essential definition of Olympism.

In an October 26, 1918 "Olympic Letter," de Coubertin reminded readers that "Olympism embraces spiritual and educative dimensions, as well as physical; it is essentially democratic in nature." The French physical educator, George Hebert, had addressed a letter to de Coubertin on May 2, 1911, voicing scorn for the saccharine ideology of Olympism. Its influence, he said, "is

non-existent in exercising any influence on physical education in the family, at school or in the army." The Games founder handled such talk in the only way he knew how — by writing refutations and composing romantic poems such as his 1912 Olympic gold medal winning "Ode to Sport." Fearing that one of his favorite ideas — Olympic competitions in the arts — might draw too few qualified artists and literati, de Coubertin entered the contest himself under the symbolic French and German pseudonyms, George Hohrod and M. Eschbach. Each of the poem's nine stanzas opened with the exclamation, "Oh, Sport," and then, one by one, linked them with god, beauty, justice, etc.

de Courbertin never quit in his variegated definitions of Olympism. He weakened but never lost faith, and when the first World War was over, at the 25th Anniversary meeting of the International Olympic Committee, held on April 28, 1919, de Coubertin exclaimed that despite world collapse and the passage of five years, "Olympism is decidedly not one of the victims of the catastrophe." At this meeting it was decided that Antwerp rather than the preferred city of Budapest (a member of the defeated Central Powers) would host the next Games just a year hence. The nostalgic Frenchman, released from the agony of war and looking into the future, but also looking backward, may have remembered the words of George Horton, United States Counsil at Athens during the 1896 Games:

> The King of Macedonia, it is said, was compelled to prove himself of pure Hellenic blood before he was allowed to compete at Olympia. The world is too big now for this sort of thing. All of us who love beauty, who have done no impiety or sacrilege, who believe in fair play, and who have stout hearts, are Greeks in the highest sense.

Need for Reform

The need for reform and change in the Olympic movement, as in any humanly created institution, is a pressing necessity. But to change the Olympic concept to a sport spectacle devoid of any symbolism is to kill it rather than to cure it. The special quality of the Olympic Games, making them distinctly different from the scores of athletic world championships, is immediately noticeable by the overwhelming number of competing athletes. Yet, if the cry for Olympic reform has not yet reached crescendo decibels, it soon will.

There exists among many serious students of the Olympic Movement an unmistakable malaise about the Games' future. The universality of the play instinct, mankind's passion for competing in and watching games, plus the charisma of the Olympic Games, combine to make the immediate demise of the Games unlikely. But the nature of human institutions is such that they are inherently imperfect, and if loving care and everlastingly sensible revisions are not at work, the Olympic Movement and Olympic Games will die prematurely. When the Olympic Games function at close to their inherent capacities (it has happened), they come close to the epitome of what sport philosopher Francis Keenan called "competitive cooperation."

I believe in the Olympic idea and the Olympic Games. I believe in them so strongly that after 20 years of athletic competition, Olympic Games attendance and library research, I must call for carefully orchestrated reform. Each of the Olympic Committee presidents — de Coubertin, Henri de Baillet-Latour, J. Sigfrid Edstrom, Avery Brundage and Lord Killanin — has pointed out the need for change. So have responsible journalists since 1896 pointed out needed changes in the IOC and Games structure. They should be listened to.

I am convinced that the Olympic Games are unique and that they are in deep trouble. In light of President Carter's recent edict that 600 American young men and women shall not participate in the 1980 Olympic Games, I am also convinced that a permanent Olympic site in central Switzerland or in western Scandinavia is a necessity. Few human institutions have been as durable, widespread and imaginative as the modern Olympic Games. No other social institution has as its sole reason for existence the brotherhood of man, the physical health of mankind, and the joy of international athletic competition. The Olympic Games must be preserved.

JOINT U.S.-USSR OLYMPIC BIOMECHANICAL FILMING PROJECT

Richard C. Nelson

The Olympic Games provides a unique opportunity to study athletes from many countries in a variety of sports. However, most of the research on Olympic athletes has focused on sports medicine, anthropometry and related sciences. Although these investigations have provided valuable data, they have been of limited practical value to coaches and athletes. Furthermore, the data collection process has been an inconvenience for the athletes at a time when they wish to concentrate on their events.

The emergence of sport biomechanics as a recognized discipline with sport science has opened new avenues for study of Olympians in action. The use of high speed motion photography to record performance has the advantages of not hindering athletes during performance or requiring any of their time. The results of such biomechanical studies can be used by coaches and athletes as a means of improving performance. Furthermore, an Olympic Film Archives can be established, thereby providing a permanent record of the performance of Olympic champions.

I advocated such an Olympic film project as early as 1970 (Nelson 1971; 1973) and encouraged other biomechanists to pursue this goal. Through the support of the Scholarly Directions Committee of AAHPER, a meeting was organized by Jim Hay at the University of Iowa in February 1973 to discuss this matter. Persons attending included Charles Dillman, Doris Miller, Marlene Adrian, Stan Plagenhoef, Barry Bates (for John Cooper), Jim Hay and me. The discussions concerned the many technical and financial problems of such a project and the specific sports most conducive to biomechanical analysis. It was decided that a meeting of biomechanists from other countries be held during the IV International Seminar on Biomechanics at Pennsylvania State University during August of that year. Such a meeting was held with over 20 scientists attending. It was agreed by all that we should pursue this idea within our respective countries. Initial efforts should be made to film national championships and international competitions whenever possible and to promote the importance of biomechanics within their sport federations and national Olympic organizations.

The 1976 Olympic Games in Montreal witnessed the first biomechanics filming which was carried out by Juris Terrauds of the University of Alberta. This project, involving track and field events, confirmed that high speed films could be taken successfully during competition without disturbing athletes or spectators. Because of the large quantity of film taken, however, it was impossible to complete the analysis of the films. As a consequence, the actual research completed and reported from this project has been limited.

Evolution of a Joint U.S.-USSR Film Project

In October 1977, at the invitation of the Sports Committee of the USSR, I participated in the First All-Union Conference on Biomechanics of Sport, held in Tbilisi, Georgia, SSR. Following the Conference, I went to Moscow where I met with Vladimir Orlov of the Scientific Department of the USSR Sports Committee. We discussed the possibility of increasing contact between American and Soviet sport biomechanists. A plan for Soviet scientists to visit the U.S. in the summer of 1978 and a group of Americans to come to Moscow in the fall of 1979 was formulated. We also discussed the possibility of conducting a joint biomechanical filming project during the 1980 Olympic Games in Moscow.

I recommended that we plan a joint research effort involving American biomechanists and their Soviet counterparts. The costs of the project would be shared and all documents and reports resulting from the project would be published jointly in English and Russian. We decided to limit our work to the sports of gymnastics, diving and weightlifting; however, rowing was added at a later date. The overall plan was agreed upon subject to further discussions and negotiations.

Upon my return from the U.S., I contacted Jim Hay, Charles Dillman and Doris Miller, all of whom agreed to serve as members of the research team. Clancy Ferrell, president of Redlake Corporation, agreed to support the project by providing cameras and accessories as needed. On the basis of this support, a proposal was prepared and sent to the Sports Committee in November 1977. Three months later, an affirmative response was obtained subject to further negotiations.

The next step involved an exchange of letters with the Sports Committee followed by the visit of three Soviet scientists to the U.S. in July 1978. The three, Vladimir Orlov, Igor Ratov and Vladimir Zatsiorsky, spent three days at Pennsylvania State University during which time additional details were clarified. It was proposed that I come to the Soviet Union in April 1979 as a guest speaker at the All-Union Biomechanics Conference to be held in Riga, Lativa, SSR, at which time a formal agreement would be signed.

To strengthen our research group's position, I requested the sponsorship of the American College of Sports Medicine under the Special Projects program. Approval was granted at the January 1979 board of trustees meeting. This was followed by my April trip to Moscow and Riga. Following detailed discussions over a three-day period, the final draft of the official agreement was completed. The document was signed by Dr. Igor Ratov, director of the All-Union Sports Research Institute, representing the USSR, and by this writer, representing the U.S.

The main points of the agreements required that the U.S. group pay all travel costs to and from Moscow, cover all film, processing and duplicating costs, and provide a gift of a camera and film analyzer. The Soviets were to cover all living and food costs for six Americans over a 24-day period before

and after the Games. All internal transpotation to the competition sites, etc. would be covered by the hosts. The film analysis work would be shared and the results published jointly in English and Russian. It also included a visit of four American specialists for 10 days in July 1979 to participate in practice filming during the Spartakiad, a national championship held every four years that involves 2,000 foreign athletes. This would be followed by a visit of three Soviet biomechanists to the U.S. in November to review the films and complete final details.

Upon my return, I formulated a proposal for submission to the Sports Medicine Council of the U.S. Olympic Committee for official sponsorship and partial financial support for the 1979 phase of the project. As a result of the support and interest of Irving Dardik, council chairman, and Gideon Ariel, biomechanics committee chairman, the proposal was approved.

Spartakiad Filming Project

A four-man team comprised of John Thenhaus, photoengineer, Clancy Ferrell, John Palmgren, research photographer and this writer travelled to Moscow in July 1979. Cameras and accessories provided by the Redlake Corporation were flown to Moscow for the project. The sports filmed were men's and women's gymnastics, three-meter diving and rowing. The weight-lifting competition was held in Leningrad, so it wasn't possible to film this event. Despite numerous technical and logistical problems, most difficulties were solved and over 5,000 feet of film was taken. The project was highly successful and was to have served as preparation for the filming to be done in 1980.

As planned, three Soviet biomechanists — Juri Petrov, Vladimir Zatziorsky and Gregory Popov — visited Pennsylvania State University in November 1979 to review the films taken in July and to complete the final plans for 1980. During their stay, a complete set of the films was presented to them and all final preparations completed. At the time of their departure, we were very optimistic about the prospects for successful completion of this project. Both groups had met their responsibilities relative to the official agreement and developed a high degree of mutual respect.

Hopes Dashed

The optimism surrounding the project in November 1979 began to diminish as the U.S. government began a campaign to force the United States Olympic Committee (USOC) to boycott the 1980 Summer Olympic Games. This effort eventually resulted in an official vote of the USOC Council not to send American athletes to Moscow. In addition, President Carter decreed that no equipment earmarked for use in the Games could be shipped from the U.S. This combination of lost USOC support and the government ban on equipment shipments sounded the death knell for our joint U.S.-USSR Olympic Filming Project. Considering the time, energy and money which had been devoted to

this project since 1977, it is understandable that those who participated from both countries shared a deep disappointment.

Conclusion

Although this project could not be completed as planned, I still consider it a worthwhile endeavor and a most valuable experience. Certainly, a number of people had the opportunity to visit a foreign country and make new friendships. Furthermore, it has laid the groundwork for continued contact and future exchanges. It is my opinion that such personal interactions contribute in a small way to mutual understanding and peace and should be encouraged and supported.

The dream of establishing an Olympic Film Archives has yet to be realized. I am confident this will become a reality. Hopefully, our aborted efforts to accomplish this task during the 1980 Summer Olympic Games in Moscow will in some way serve as a stimulus for success in the future.

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GROWTH OF SPORT SOCIOLOGY

George H. Sage

For millions of people throughout the world, sport is a passionate preoccupation and for an increasing proportion, sport is a major leisure activity. For a few it is virtually a way of life: they either earn their livelihood from sport or devote a large part of their youth to sport in hopes of becoming a national or world champion. Within modern societies there are few who remain indifferent to sport or insulated from its pervasiveness.

In light of sport's omnipresence and enormous influence, it has become an increasingly popular subject for sociological analysis. But the study of sport from a sociological perspective is of rather recent vintage. For most of us assembled at this Academy meeting, there were no classes in the sociology of sport in our professional preparation programs; indeed, some of us were well along in our careers before we heard the term "sport sociology." In saying this I do not mean to imply that physical education has been indifferent to the social dimensions of physical activity until the past 15 years. The "New Physical Education" introduced by Thomas Wood and Clark Hetherington at the beginning of this century was firmly based on the belief that games and sports experiences provide a rich environment for the socialization of the individual and the development of personal-social characteristics. Unfortunately, neither Wood nor Hetherington, nor any of their disciples, followed up with empirical research using social research methodology. Instead, they were content to evangelize about the "social development" objective of games and sports.

While the early leaders of our field gave a privileged position to "social development," the term remained largely undefined and the social outcomes of physical education and organized sports programs went unmeasured. Traditionally, physical educators have been more interested in justifying sports programs than objectively studying them. Further, until quite recently, they did not possess the background in social theory and research methodology to develop a basic subject matter in the sociology of sport and physical activity. There are some exceptions to this, however. Charles Cowell at Purdue University published a few empirical studies between 1937 and 1960, and a book by physical educators Frederick Cozens and Florence Stumpf entitled *Sports in American Life* must be considered a pioneer effort to examine the social role of sport in American society.

The Beginnings

Any effort to assign a birthplace to sport sociology is fraught with difficulty, and inevitability leads to objections. Given the arbitrariness of such a task, I shall merely note that several social scientists had written about sports prior to World War II. In *The Theory of the Leisure Class*, sociologist-economist Thorstein Veblen stated that sports were a reversion to barbaric culture and were "marks of an arrested spiritual development." Sociologist

William Graham Summer, in his book *Folkways*, published in 1906, included a chapter on "Popular Sports, Exhibitions, and Drama." And in the 1930s, Willard Waller, a sociologist of education, discussed the social control function of athletics in the school system in *The Sociology of Teaching*. In Germany, Risse published *Sociolozie des Sports*.

Between the end of World War II and the mid-1960s several programmatic articles appeared calling for a study of sport using sociological concepts, theories and methods, with the majority of these statements coming from Europe. At the same time, the most prominent set of empirical and theoretical work in this subject came from the collaborative efforts of psychologist Brian Sutton-Smith and anthropologist John Roberts and their colleagues.

Until mid-1960 there was no formal organized sociology of sport; indeed many authors never used that term, but they did lay the groundwork for the events of the past 15 years.

1965 to the Present

To select any event as the most significant catalyst in stimulating the remarkable growth of sport sociology is arbitrary, but I suggest that there were two salient events within a year of each other which were largely responsible for creating interest in the systematic study of sport from a sociological perspective. The first was an article published in the May 1965 issue of the *Journal of Health, Physical Education, Recreation* authored by physical educators Gerald S. Kenyon and John W. Loy (1965) entitled "Toward a Sociology of Sport." The second was a conference held in 1966 in Cologne, Germany under the sponsorship of the International Committee for Sport Sociology; an outgrowth of this conference was the establishment of the *International Review of Sport Sociology*, the first journal entirely devoted to this subject.

The promotion of sport sociology has taken place in many ways. Professional associations, for example, have been an important source for nurturing this subject. In 1966, at its annual convention, the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) sponsored its first program on the sociology of sport, with Kenyon, Loy and Cyril White as speakers. Since 1968, AAHPERD's annual meetings have usually devoted at least one session to sport sociology, and in 1976 a Sociology of Sport Academy was founded by the Alliance to coordinate and promote sport sociology.

The National College Physical Education Association for Men (NCPEAM) was another early sponsor of sport sociology. At its 60th annual meetings in 1957, sociologist Gregory Stone was a keynote speaker. Beginning about 1970 sport sociology sessions were a regular feature of NCPEAM and NAPECW meetings. Moreover, these two associations, which have now merged as the National Association for Physical Education in Higher Education (NAPEHE), publish *Quest*, a journal which has carried numerous articles related to the social aspects of sport.

In the United States, only two major conferences have been held on the sociology of sport. Both have been organized and promoted by Big Ten University physical education faculties under the auspices of the Committee on Institutional Cooperation. The first Big Ten symposium, in an annual series which now numbers 12 and covers all of the subfields of physical education (e.g., motor learning, history of sport), was held at the University of Wisconsin in November 1968 with sociology of sport as its theme. In 1978 the symposium was held at the University of Minnesota with sport sociology the theme again. Conferees at the Minnesota symposium organized the North American Society for Sport Sociology and its first conference will be held in October 1980 in Denver.

Another source of promotion of this subject is its growing literature, especially in books that can be used as texts. No textbooks were devoted exclusively to sport sociology before 1970. In saying this I do not mean to ignore Cozens and Stumph's *Sports in American Life*, Boyle's *Sport: Mirror of American Life*, McIntosh's *Sport in Society* or Nathan's *Sport and Society*, all of which examine the social role of sport in society. But I do not view them as textbooks.

As is the case with any new sub-field within a discipline, as it begins to grow and courses are offered, anthologies are published to bring the literature together, since what written materials that do exist on it are typically scattered through many diverse sources. Such was the case with sport sociology. Beginning in 1969 with Loy and Kenyon's *Sport, Culture and Society*, some half-dozen books of readings appeared in the next few years. Several books have been used as texts, in addition to the readers, such as Harry Edwards' *Sociology of Sport*, but in the past three years several books have been published which were written specifically as texts for sport sociology classes.

While textbook literature has expanded rapidly in the past decade, sport journalists and former athletes have supplied the most prolific volume of literature about various social dimensions of sport. While these works have been primarily reportorial or autobiographical rather than empirical research oriented, they have provided significant data for sport sociologists.

The growth in empirical research literature has been phenomenal. A substantial body of this work can be found in the *International Review of Sport Sociology* and the *Research Quarterly*. But research on sport has been reported in the *American Sociological Review, American Journal of Sociology, Sociology of Work and Occupations*, and others. Equally significant, several new journals have sprung up, such as the *Review of Sport and Leisure, Journal of Sport and Social Issues* and the *Arena Review*.

Accompanying and supporting this burgeoning literature, has been an enormous expansion of sport sociology classes in the last decade, overwhelmingly more under the auspices of physical education departments, but increasingly by sociology departments as well. Indeed, courses of this type have now become one of the required courses in many professional preparation

programs in physical education. And several Ph.D. programs are available in North America.

The evolution of careers in sport sociology is not unlike that experienced in other new fields of study. The first generation of scholars become interested in the new sub-field at some point after the acquisition of their highest degree. They have to retread, to self-educate themselves, and learn the subject as it grows. The second generation typically studies under the first and learns from them, supplementing this study with course work from related disciplines. Third and subsequent generations typically begin specializing in the sub-field as undergraduates and continue this specialization in graduate study through formal courses and independent study. This pattern of sub-field evolution has been followed precisely in the case of sport sociology (see McPherson 1975). The first and second generations of sport sociologists are presently teaching most of the classes throughout the country. "Most have lectured and/or taught courses in both physical education and sociology and several hold joint or cross-appointments in the two departments," according to Loy and his colleagues (1978).

Even though sport sociology has experienced phenomenal growth in the past 15 years, there are few active research scholars. In a recent study, Loy (1978) identified 100 scholars having two or more publications related directly to the sociology of sport. He found that a core of 10 of these scholars accounted for over 40 percent of all the published work of the 100.

THEORY AND RESEARCH IN SPORT SOCIOLOGY

The major issues and controversies about theory and research that are debated in general sociology have surfaced in sport sociology. One is the question of which paradigm best explains social reality; a second concerns the appropriate research methodology for sampling social phenomena; and a third is the basic versus applied issue. This set of questions is intricately related, and it is artificial to separate them as I am about to do, but that seems to be the most expedient organization for this essay.

The "Best" Paradigm

Since its beginnings as a discipline, sociologists have used different lenses to analyze and explain social reality. George Ritzer (1975) has correctly argued that sociology is characterized by competing paradigms, that it is a multi-paradigm science, with several paradigms vying for hegemony within the field as a whole as well as within sub-fields. None of the paradigms has a discipline-wide dominance or unquestioned supremacy in a specific area within sociology. The general sociology literature is characterized by an extraordinary amount of political conflict as each paradigm is contested by those who accept other paradigms. Adherents of one paradigm are constantly attacking those who support the others. This debate has spilled over into sport sociology and a lively discussion has ensued.

On one hand, persuasive arguments have been advanced for the promotion of the structural-functionist orientation for the study of sport wherein analysis is concerned with interrelations between social phenemona in general and, more particularly, with the consequences of sport for the larger structure or structures in which it is variously embedded. Concomitant with this view is an emphasis upon value-free inquiry and analysis. Attacks upon this orientation have come from several sources. The critics' targets are the value-free posture typically espoused by functionalists, the political conservation of this orientation, and its tendency to ignore the symbolic meanings inherent to social relations.

On the other hand, there are the adherents of the conflict orientation, carrying on the tradition of Karl Marx who viewed the application of theory through social action as fundamental to science. They propose that not only is the value-free position a myth that deludes us into believing something that cannot exist, but that it ignores responsibilities that sport sociologists have as social critics, even reformers. Moreover, they claim that to focus only on functions is to ignore the exploitation, power relations and other social phenomena in sport that maintain the status quo.

Still further, supporters of an interactionist orientation argue that both of the above perspectives miss the point. For the interactionist, social reality is not a static set of coercive social facts. External social constraints do not by themselves determine behavior. The core of social reality is the active human being trying to make sense out of social situations. Concern is with intrasubjectivity and intersubjectivity, states of mind that characterize behavior. Supporters of this view call for research emphasizing the subjective meanings which persons attach to involvement in sport.

In general sociology, sociologists sometimes completely forget the question of knowledge advancement in their efforts to politically advance the cause of their paradigm. Ritzer recommends that "sociologists would be better advised to engage in efforts to articulate their paradigm and assess the intellectual merits of opposing paradigms than to engage in verbal assaults on other sociological paradigms" (1975, p. 203). This seems good advice, for until everyone views social phenomena with the same lens there will be no single sociological paradigm.

Choice of Research Methodology

Intricately linked with theoretical issues are methodological issues. Here, too, a lively exchange of ideas has developed, centering about the same arguments that have persisted in general sociology for years. In simplest form, it is the issue which is the most viable methodological strategy for amassing cumulative knowledge. There is little argument on the demand that sociology should be empirical, but the definition and the application of the empirical attitude differ greatly. On one hand, there are adherents of a positivist or quantitative approach, while on the other are those who support the verstehen and historical-comparative methodologies. The former holds that social re-

search should emphasize the study of overt behavior and the use of operational concepts and quantitative, mathematical techniques; the latter emphasizes the use of personal knowledge and insight gained in social interaction as a tool to understand the social behavior of others, and, when extended to historical and comparative work, depends upon the observer's understanding culture and social norms in historical and comparative contexts.

Both approaches have roots firmly planted in sociology, but the quest for objectivity, increasingly sophisticated statistical techniques, and the convenience of the computer have accelerated the trend toward quantitative empiricism, especially among North American sociologists, with a corresponding trend to debunk methodologies which employ qualitative techniques. But in Europe, evolutionist theories, Marxism, a historical sociology inspired by Max Weber, and a more philosophic form of sociology are still active.

The outcome of the methodological debate is far from clear, but consensus will unlikely occur in the near future. Perhaps sports sociologists would be wise to review Joseph Schwab's paper "What Do Scientists Do?" He examined some 4,000 scientific papers written by European and American scientists over a span of almost five centuries to explore the debates among scientists about how their inquiries should be conducted. He concluded that the issues raised and the positions taken about the modes of scientific inquiry were "remarkably constant from epoch to epoch" (1960, p. 1). Schwab's study suggests that sport sociologists should not squander their energies with intramural debtes over which is the "true" or "best" method of sociological inquiry.

Basic vs. Applied Research

The issue of basic research versus applied research is, of course, related to the value-free versus action research question discussed above. The basic dilemma over the purposes of sociology and the uses for which it might be put dates back to the works of classical European sociologists such as Durkheim, Weber and Marx. However, the debate over pure sociological pursuit of knowledge versus applied sociology in pursuit of solutions to social ills has reached its greatest intensity with American sociologists. Here the sharp contrast between knowledge versus action in sociology is seen in the works of Sumner, Ward, Davis, Mills and many others. However, in a review of contemporary paradigms in sociology, Tom Bottomore noted that "many of the competing paradigms in sociological theory . . . include as an important element some formulation of the relation between theoretical models and research on one side and political action and policy making on the other" (1975, p. 201).

In sport sociology, cogent arguments have been advanced on behalf of a strict basic research approach. For example, it has been suggested that the sport situation is an excellent research setting for verifying general sociological propositions and developing sociological models and theories. Also, the generation and verification of substantive theories about the significant social phenomena of sport has been proposed (Loy & Segrave 1974). On the other hand, some argue for an applied or action-oriented sport sociology devoted to

acquiring knowledge for more effective administration of sports and/or the more humanistic understanding of sport as well as to ferret out and expose illegal and unethical practices in sport (Melnick 1975).

To a large extent, the basic versus applied argument is a pseudo-issue. Both roles serve important functions. Scientists of every discipline consider that the pursuit of knowledge, regardless of whether it is "practical," is worthy of study. For sociology the effort to seek truth, regardless of obstacles, is a tradition too hard-won to be lightly abandoned, even at a time when various social philosophies seem to demand choosing sides on every issue. On the other hand, sociology is a field ripe for opportunities for employing action research strategies. The ubiquitousness of social issues and problems almost cries out for investigators to take up arms to expose the causes and consequences of the perpetuators of human misery.

The basic research approach has been and is dominant in sport sociology. Indeed, the sport sociologist as social critic, reformer, muckraker and humanist-existentialist has been left largely unexplored. Since the spate of publications in the early 1970s, little action-oriented research has been done. The mood of the late 1970s was not conducive to the radical orientation, the orientation that typically serves as a foundation for this type of work.

For those readers who would like a comprehensive discussion of the topics discussed in this essay, the writer highly recommends John Loy's article in the March 1980 issue of *Research Quarterly*.

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VALUES OF BEING IN SPORT

Peter J. Arnold

The values that can arise from participation in sport are both evaluative and existential but they are also partially conceptual. This essay will briefly look at the concept of sport and then suggest why certain values or aspects of being, while not confined to sport, find a natural location in sport.

Sport is a collective term embracing a large number of disparate activities. It includes motor-racing, water polo and weight-lifting, field games such as rugby, cricket and hockey and field pastimes such as hunting, shooting and fishing. So far as sporting activities can be identified at all, they seem to be associated in varying degrees with whole-bodied exertion, skill, uncertainty of outcome and some element of danger. Most sports, too, are rule-bound, ritualistic and institutionalized. If any one phrase can be applied usefully to the diverse yet related series of activities called sport, it is probably that of *family resemblances*.*

Sportsmanship

If sport is held together at all by something common, it surely lies in the notion of sportsmanship. For many, sportsmanship is an inbuilt element of sport. Keating (1979) has even written of it as being a moral category and associates it with such virtues as courage, courtesy and magnanimity. While it may be a mistake to regard sportsmanship or the qualities and dispositions that comprise it as "special" or "peculiar" to sport, it may well be true that such qualities and dispositions find a more ready home in sport that lead to their acceptance and expression.

Sportsmanship means more than paying a deferential lip service to the legal code of fair play. It involves the living out of a moral dynamic based upon principles of equality and justice that become a constituent and characteristic part of the action. Clearly not all sporting encounters are so conducted. Sometimes the very opposite is true; sometimes the cheat and the spoilsport prevail. When this occurs, a certain dimension of sport becomes damaged and bad faith ensues. "Good" sport, by contrast, is not destructive of mutual respect and goodwill; rather, it is enhanced. In the pursuit of contest and effort, the true sportsman is thankful to an opponent for the giving of her/his best in a climate of shared understanding and brotherhood.

Aesthetics

Participation in sport can also provide distinctive ways of entering the aesthetic life. While it seems clear that all sporting activities are capable of

*Wittgenstein used this phrase to combat the traditional view that because different phenomena are called by the same name, there is necessarily a quality or set of qualities common to them all. See Wittgenstein's *Philosophical Investigations* (O.U.P., 1953, p. 31e).

yielding aesthetic experience, some sports, because of their inherently aesthetic make-up, are more predisposed to do so than others. Whereas it is perfectly possible, for example, to put the shot without reference to aesthetic criteria, it would be impossible to do so in an activity like ski-jumping, for here the *manner* or how something is done is as important as *what* is done. In the shot put, it is the distance that counts, whereas in ski-jumping, line and form are no less important than the distance achieved.

While "aesthetic sports" like figure skating are partially characterized and evaluated by reference to aesthetic criteria, it should not be thought that other sports which are not so evaluated, are aesthetically barren. This writer has suggested elsewhere (Arnold 1979) that in such facets of sports as the skillful, the dramatic and the phenomenon of 'the good contest,' an aesthetic response is likely to be evoked. In the mastered skill, for instance, both informed spectator and the bodily-aware performer can be afforded delight. The hammer thrower is no less able to feel the rhythmical sequence of his controlled gyrations than the onlooker is able to admire the fluency, poise and balance of the execution. It is by attending to the familiar gestalt of his kinesthetic flow patterns that the athlete, as the agent of her/his actions, derives aesthetic gratification. For the athlete a mastered skill can become a kind of aesthetic oeuvre — something akin to a well-known melody. It can not only be functionally employed to meet a particular task in the context of sporting action, but when attended to kinesthetically, enjoyed for its own sake. It is both an aspect of self and a source of pleasure.

Psychological Needs

Originally sport meant to find amusement, fun or pleasure, particularly in games and play, but with the coming of professionalism and commercialism it became a more serious business (Huizinga 1970, chap. 12). The nature of sport, however, cannot be adequately grasped if attention is confined solely to an examination of its observable features. The raison d'etre of a sport lies not in its outward characteristics and procedures so much as in the needs, craving and satisfactions of its participants. The fact that athletes try to win when playing competitive games in no way suggests that to win is their sole purpose, least of all their chief purpose. For many, the attempt to win is but a procedural feature of competing. Many people take part in sport because it provides a social experience, excitement, catharsis and/or health and fitness benefits.

Authentic Existence

One dimension of being that sport helps satisfy is the quest for authentic existence. Such is the pervasive and alienating power of the mass media and the anonymous "they" that the human soul cries out for a sense of individuality and freedom. To live inauthentically is to de-personalize one's existence by giving way to the amorphous collective. To live authentically on the other hand enables the existent as agent to take possession of her/himself and live in accordance with her/his choices and decisions. Sport is authentic to the extent that it

provides a meaningful forum which athletes can both find and make themselves. Whereas the reflective life is concerned with theory and ideas and proceeds from thought to thought, the practical life, of which sport is a paradigmatic case, proceeds from intention to action. To intentionally act in the world is to make our mark on the world. In sport, athletes re-affirm their presence in the world by doing and becoming. In sport, one competes as much to self-actualize and to find out who one is as to seek recognition or glory.

Play

Although sport is not play, it is doubtful if modern sport would have come into existence, let alone survived, unless something of the spirit of play were encapsulated by it. Whereas play is immediate in its attractiveness and takes what it can from the passing moment, sport reflects more an attitude of disciplined application. Whereas play is essentially an expression of disinterested absorption, sport is committed more to the fulfillment of its own rule-governed ends. Play, then, is a vital but gratuitous element of sport. Certainly when fun and spontaneity cease to be part of sport, it can become dull, serious business. This is why the amateurs rather than the professionals are the guardians of sport, for it is the amateurs, the lovers of what they do, who keep the nature of sport alive. The amateurs participate because they take pleasure in doing so, not because they regard it as a means of earning a livelihood. It is because of this that the Olympic ideal, abused and corrupted as it has been, is still worth preserving.

In its relation to sport, play is paradoxically both serious and non-serious. It is non-serious in that it appears to step aside from life's realities, thereby becoming somewhat escapist. Yet in the very act of doing so, it becomes serious again, but this time at a more profound level. Play is serious in that it is a necessary ingredient for living the good life. Aristotle and Aquinas believed that in the interests of the good or balanced life, humans should be neither overly earnest or buffoonishly idiotic. *Eutrapelia* was the name given to this reconciling playful element in the good life. Play is also serious in that it seeks nothing but its own satisfaction, its own pleasure. When this occurs, refreshment is the outcome. The play element in sport then is important for it helps sport remain a harmonizing and restorative pursuit and prevents it being turned into a dehumanizing, routinized and zestless occupation.

In conclusion, if sport is to continue to be a source of intrinsic value and provide opportunities for the discovery of authentic being, it must, like play, be left to pursue its own ends and not be used to further other ends, whether they be social, political or economic.

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PLAY AND SPORT AS MORAL EDUCATION: THE PROBLEM OF *IS* AND *OUGHT*

Roberta J. Park

Values, Ethics and Morality

Although the terms *morals* and *ethics* are closely related, morality usually refers to conduct while ethics refers to the system of beliefs underlying such conduct. Because social customs greatly dictate moral behavior, morality is usually viwed as a social enterprise. To act in a morally responsible way implies acting in conformity with the rules of conduct.

For centuries, questions of value, ethics and morality have occupied some of the finest philosophical minds, and far from total agreement has been reached regarding what constitutes moral conduct, or even which problems should be studied. Some of the most perplexing questions have centered on the monistic/pluralistic issue, that is, are there fixed moral standards, or is morality a matter of personal or group preference or custom. There is considerable agreement among philosophers, sociologists, educators and others that during the 20th century there has been a trend away from traditional approaches to morality, especially those based on absolute values. In the 1960s a mood of moral questioning pervaded the United States, leading to the contention that in a pluralistic and complex society the value systems of all sub-cultures, even of all individuals, were equally legitimate and that instruction in morality in public schools and colleges was an infringement of personal rights.

Although the educational system in the United States has traditionally sought ways to bring about a reconciliation of cultural diversity and disparate values, in recent decades schools and colleges have increasingly shied away from questions of ethics and morality. The result, according to Mathis (1977) and others, has been

> an omnibus approach to education and teaching that endeavors to provide "something for everyone" without being too much concerned with the moral consequences . . . . Consequently, the classroom [has become] much more an arena for learning how to manipulate the culture in the interest of maximizing a position of status in one's reference group than it is a place for developing an independent and consistent self-identity based on a morality that allows the learner to ask *why* about the how's and the when's that the culture demands.

Part of the blame for this Mathis ascribes to a misunderstanding of the meaning of the terms *instruction* and *training* as contrasted with *teaching* and *education*, and to giving primacy to short-term learning and performance (or product) rather than to understanding and process. In athletics — and, I fear, in physical education — one is likely to hear more about performance and training than about process and education.

While it is unclear how to cope with the matter of moral education, it is increasingly clear that something must be done to return rationality and mor-

ality to education. Rationality and morality in education were the themes of a recent Danforth Foundation conference at which Kenneth Boyer, former U.S. Commissioner of Education and now president of the Carnegie Foundation, called for the need to deal with moral questions.

In *Teachers College Record*, Douglas Sloan (1977) noted the oscillations in educational policy over the past two decades and pointed to our preoccupation with mechanistic approaches and our tendency to dwell only on rationality while neglecting imagination, sympathies and intentional striving. A human-centered education, he stated, would pay some attention to "the past experience of humankind [which] is the chief source for what Michael Polanyi has called 'superior knowledge,' that knowledge of the sources of emotional sensitivity and moral insight . . . ." A human centered education pays attention to knowledge and insights derived from questioning designed to elicit reasons and uncover causes.

What, then, might be done to restore rationality and morality to education? In his book *Fair Play: Ethics in Sport and Physical Education* (1979), Peter McIntosh points out that whether teachers and coaches are aware of it or not, they provide students with a moral education through sports and games. Unfortunately, those teachers and coaches whose own educations have not been devoted to examining situations (and here McIntosh is, I think, suggesting examination using insights derived from philosophy) those individuals are unlikely to be aware of the range or consequences of ethical choices which exist within the sport experience or of the consequences of those choices which one does make. Hence, they are not likely to foster such opportunities for their students. McIntosh contends that teachers and coaches cannot abdicate responsibility for moral education because even the decision not to deal with ethical questions is itself an ethical decision.

Dealing insightfully with ethical questions is extremely important and its importance is often overlooked. How many of us give more than passing attention to it in our major programs? Thinking about and working through ethical questions can be worthwhile for ourselves and our students. Thinking about, even if the thinking meets all the rigorous tests of logic, is not the same, however, as doing — and it may be just this fact which endows games and sport with a particular potential for moral development. In games and sport one's actions constantly count for something. Moreover, those actions are often highly visible. I grant that there is the problem of *intentionality* which must be dealt with.

In an article entitled "From Is to Ought: How to Commit the Naturalistic Fallacy and Get Away with It in the Study of Moral Development," Lawrence Kohlberg (1971a) attempts to close what he sees as a 50-year gap between psychology and philosophy with regard to the subject of moral development. (The start of this 50-year gap was philosopher G.E. Moore's attack on the so-called "naturalistic fallacy" — that is, the fallacy of deriving statements about epistemological and moral norms and criteria — *oughts* — from state-

ments about the development of knowledge and morality — *is*). According to Kohlberg's thesis, "an adequate psychological explanation of either cognition or morality . . . must include an explanation of the universality of these concepts throughout humanity." He and his associates conducted long-range, cross-cultural studies of the developmental patterns of children, reporting evidence that the direction of the change in the moral conceptualizations of children was the same in all the cultures studied although the rate of change differed. The demonstration that the direction of change in moral development transcends cultural boundaries, Kohlberg holds, is extremely important and supports his thesis that "basic moral values or principles are universal."

As Kohlberg interprets his evidence, human beings pass through six universal stages of moral development. (The development of any individual, of course, may be arrested at any level.) These stages suggest a striking parallel to those of cognitive reasoning set forth by Bloom in *Taxonomy of Educational Objectives* (1956). The six stages are:

- Avoidance of punishment and deference to power are valued in their own right.
- Right action consists of that which instrumentally satisfies one's own needs and occasionally the needs of others.
- Good behavior is that which pleases or helps others and is approved by them.
- Right behavior consists of doing one's duty, showing respect for authority and maintaining the given social order for its own sake.
- Right action tends to be defined in terms of general individual rights and standards which have been critically examined and agreed upon by the whole society.
- Right action is defined by the decision of conscience in accord with self-chosen *ethical principles* appealing to logical comprehensiveness, universality, consistency, reciprocity, and respect for the dignity of human beings as *individual persons*. (Kohlberg 1971a,b)

The development of moral principles results from the active reconstruction of experience, and in Kohlberg's analysis, individuals always prefer the next higher stage. Since each higher stage includes the features of lower stages, according to Kohlberg's position, "only a normative ethical theory which includes *all* these features can tell us how we ought to make moral judgments." Attempts to establish theories of moral development which overlook this fact will be deficient. If one accepts Kohlberg's evidence and interpretations, it follows that "philosophical analysts are justified in asserting universal features as against arguments of ethical and cultural relativists."

Of course, *knowledge* of right action does not insure that a person's *actions* will be in accordance with his/her principles. In the same article and elsewhere, Kohlberg (1971b) concludes that mature moral judgment and mature moral

action seem related. Rejecting the notion that there is anything like moral behavior as such, he contends that there is, however, "behavior which is consistent with an individual's moral principles . . . ." While this may not satisfy all problems raised by the question of intentionality, it seems to suggest important developmental relationships.

Play and Its Potential

Anyone attempting to define play and/or describe its functions is confronted with complex problems at more than merely the semantic level. Many conceptual frameworks exist for looking at play. Only two will be mentioned here. The first, which can be described as "play as a developmental tool," characterized much early 20th century thinking on the subject and influenced such theorists as Dewey, Mead and Piaget. It certainly influenced early leaders of American physical education and the playground movement from 1900 to 1915.

This theory of play links children's play behavior with their cognitive structures. According to Piaget (1962), by means of the processes of assimilation and accommodation, children develop and learn to deal with social reality. As children grow older and are better able to modify their thoughts and behaviors, rule-governed games increase. Herron and Sutton-Smith (1971) and others object to Piaget's theory, particularly to what is seen to be a reductive account of play which diverts attention from play's most intrinsic characteristic, disequilibrium (more recently called "disorder"), and in so doing from play's potentiality for novelty and creativity.

Another interpretation of play focuses on play's potential for engendering new insights. To this group, play is not seen as a particular set of activities, but as a way of organizing activity. The work of Turner (1969; 1974), Bateson (1972), Miller (1973), Csikszentmihalyi (1975) and others suggests that in play, means-ends relationships are altered, thereby providing opportunities in which a high degree of freedom and the possibility of novel creations are enhanced. Accordingly, participants can for a time forget the socially determined self and by transcending conventional dichotomies, "perceive one another as full, discrete human beings" (Handelman 1977). This writer's early attempts to investigate what Eastern philosophical orientations might contribute to Western understanding of play — even games and sport — resulted in similar conclusions regarding transcendent potentialities (Park 1971; 1973; 1974). In being different from ordinary life, especially in providing opportunities for temporary dissolution of the binary "me/thou" relationship, play provides opportunities for the experience of *communitas*. If, then, as Kohlberg (1971a) contends, Stages 5 and 6 of moral development involve understanding universal human rights and a generalized respect for the socio-moral order, opportunities to experience communitas by means of the play mode (which might well occur in sport) must be considered important in the development of morality.

This writer's arguments regarding the potential of sport for moral education rest very much on the concept of communitas. In recent years a number of researchers (e.g., Bovet 1968; Miller 1970; Hyland 1972; Leonard 1975; Csikszentmihalyi 1975; Harris 1978) have suggested that a distinctive feature of the sport experience is that "state in which action follows action according to an internal logic which seems to need no conscious intervention on our part . . . . We experience it as a unified flowing from one moment to the next . . . and in which there is little distinction between self and environment; between stimulus and response; or between past, present, and future" (Csikszentmihalyi 1972, as cited in Turner 1974).

This writer tentatively suggests that 20th century American sport offers an example par excellence of contemporary secular ritual. It is said tentatively because some anthropologists (e.g., Gluckman & Gluckman 1977) contend that unlike art and drama, modern sport does not qualify as secular ritual. Sport seems to offer in abundance that element which America most needed as it entered the 20th century: a concrete demonstration that some freedom can exist within a closely defined orderly system. Cheska (1978), for example, holds that there are strong ritual elements in sport: ceremony, symbolism, regularity, repetition. Players, officials and spectators all know that a football team has four downs to advance the ball 10 yards, that the "Star Spangled Banner" precedes baseball games, etc. The scenario, once you learn it, is very orderly. Yet within the structure of the contest, players have transitory moments when they are free to create. Admittedly, such creativity is usually more highly prized by observers, at least if it contributes to victory. In addition, the structure of a game can be transformed far more easily than the structures of most normative social institutions.

The next remarks rest very heavily on the work of Victor Turner, professor of Social Thought and of Anthropology at the University of Chicago. Acknowledging an indebtedness to van Gennep's ([1909] 1960) work on rites, ritual and "phases of transition," Turner sets forth a stimulating and illuminating discussion of *liminal* and *liminoid*, including observations on play and sport. (*Limen* is derived from the Latin "threshold"). On one hand, Turner associates liminal experiences largely with primitive and pre-industrial societies, although elements of liminality can certainly exist in post-industrial societies. Liminal phenomena tend to be collective and associated with biological, calendrical and social-structural rhythms. They are "enforced by sociocultural necessity" but contain potentiality for the formulation of new ideas, symbols, etc. Liminoid experiences, on the other hand, are associated with post-industrial societies where a distinction exists between work and leisure. Citing Dumazedier (1962), Turner contends that this distinction affects all symbolic genres, from ritual to games to literature. True leisure, which can only exist as a compliment to work, provides two kinds of freedom: "freedom-from" — all kinds of institutional obligations, for example; and "freedom-to" — enter into and even generate new symbolic worlds, including sport, to transcend (to *play*) in which the

"ludic" and the experimental are stressed. For Turner, even though sports like football and recreations like rock-climbing may involve exacting, disciplined, demanding commitments, the fact that they are optional "makes it possible for them to contribute to an individual's freedom . . . even self-transcendence."

Liminoid experiences are extremely important in post-industrial societies where social-cultural systems are so rigid that individuals can rarely avoid normative demands. In industrial societies it is within leisure (art, literature, drama, sport) that liminality may occur — where there may be a breakthrough from order to disorder to potentiality. Liminality can be destructive, of course, but where it is creative, it presents directly or by implication a model of human society as a homogeneous, unstructured communitas whose boundaries are ideally coterminous with those of the human species. Turner distinguishes between *spontaneous communitas* and *ideological communitas*. The former is "a direct, immediate and total confrontation of human identities . . . . Subjectively there is in it a feeling of endless power." In *ideological communitas* " 'memory' has already distanced the individual" from the communual experience. We strive to replicate this experience, however, by developing a social structure in which these initially free and innovative relationships between individuals become converted into norm-governed relationships. It is, I would suggest, the seeking of experiences of spontaneous communitas which is one of the strong appeals of sport in the modern world.

What might happen, however, when there is too much outside interference with the potentiality for communitas in a game? Watson and Kando (1976) found that in Little League baseball, rules meant something quite different to the children than they had to Piaget and Mead. Whereas Piaget and Mead focused upon the game settings in which children established their own codes of rules, free from adult constraints, Little League baseball was in fact highly institutionalized, ritualized and regulated from without, that is, from parents, managers and other adults. From the child's perspective, Little League baseball was subject to considerable disruption created by adult interference. The authors maintain that one of the many functions served by the considerable ritual of Little League baseball may be to provide order for the child in a game which has this disruptive quality. Devereux (1976) has discussed the differences between backyard and Little League baseball and the development of morality with regard to to the importance of children themselves dealing with dissonance.

Can "Ought" Be Derived From "Is"?

In an article entitled "How to Derive 'Ought' from 'Is' ", Searle (1964) set out to disprove Hume's contention that "there is a class of statements of fact which is logically distinct from a class of statements of value," that is, "no set of descriptive statements can entail an evaluative statement without the addition of at least one evaluative premise." Using baseball as his example, Searle distinguishes between these two kinds of descriptive statements as follows: "Jones is six feet tall"; and "Brown hit a home run." The former statement

describes something that can be known by objective measures (the standing height of a person named Jones) while the latter statement presupposes the existence of some type of institution — "home run" only has a meaning given the context of baseball: without the institution, Brown hit a sphere with a stick.

In order to make his theory work, Searle acknowledges that the word *institution* needs to be clarified. To do this he distinguishes between two sorts of rules or conventions: "those which regulate antecedently existing forms of behavior" (e.g., eating is an activity which exists independently of polite table manners) and those which not only regulate but also create and define new forms of behavior — new institutions (e.g., the rules of baseball define the possibility of the game of baseball). Once we recognize the difference, it is possible to see that many forms of rights, responsibilities and obligations are similarly institutionalized. It is this institutionalization which, for Searle, lies at the base of how "ought" can be derived from "is." To demonstrate this, he gives the example of a runner picked off second base. The umpire calls "out" and tells the runner to return to the dugout. The runner holds his ground, claiming that the umpire cannot derive an "ought" (return to the dugout) from an "is" (being tagged out off the base). The runner, however, is overlooking the fact that "by undertaking to play baseball [he] has committed [himself] to the observation of certain constitutive rules." This same line of reasoning, Searle contends, applies to other types of occurrences, including those usually labeled moral. A similar point is made by von Wright (1979). It is a mistake, he maintains, to confuse "cause-effect" relations with "ground-consequence" relations. For a behavior to be considered "action," one must be responsible, and to be responsible, one has to answer *why* one did the action.

What Difference Does It Make If Play and Sport Are a Form of Moral Education?

If Turner and others are correct that in post-industrial societies sport has become one of the more important mechanisms by which communitas may be established, and if communitas has something significant to do with the perception that all humans are essentially alike, then our understanding of sport should be deepened and our concern for maximizing its most humane potentialities should be one of modern society's greatest concerns. If Kohlberg is correct about the universality across cultures of the developmental stages of morality, and if there is a high correlation between moral judgments and moral actions — a contention which, with various modifications, can be traced back thousands of years in many cultures — then it is possible that play and sport may be among the most important experiences available in the contemporary world for expanding human and humane potentialities. If this is so — and I think it is — I must agree with Thomas Wentworth Higgenson, Charles William Eliot and many others that moral development and play and sport are inescapably bound together. I must also agree with McIntosh in his contention that whether we are aware of it or not, we constantly make moral judgments in sport, and that unless we consciously and deliberately examine our judgments and actions, we are

likely to foster attitudes and behaviors of which we are not really aware. One of the traditional tasks of philosophy has been to foster clear, independent thinking. By looking for reasons — by examining events within their contexts — the philosophic approach can be a useful corrective to the dominant 20th century empirical mode which gives prominence to cause/effects ways of seeking understanding. There is no reason why teachers and coaches should not encourage players to examine their own reasons why they engage in a particular behavior in a particular circumstance. However, unless we see the value of this and prize that value, it is unlikely to happen often.

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SPORT PSYCHOLOGY IN PREPARATION FOR THE OLYMPICS

Dorothy V. Harris

Interest in sport is found in all societies. The Olympic Games bring into focus the attention directed to competition. Sport is universally understood and most individuals can identify with it. During the last seven or so years, interest in sport psychology has increased significantly. This dramatic growth has resulted from the expected increase in the level of performance with every major competition. Growth in the physiological, biomechanical, technical, and tactical knowledge has slowed considerably. The marginal differences in performance appear to be determined by psychological effects.

In spite of the long-term universality of interest in sports, only recently have attempts been made to develop a body of knowledge about the psychology of sport. One would be naive to think, however, that psychological insights into motivation and performance in sport had to wait for systematic methods of research and results that were statistically significant. Outstanding coaches have discovered psychological principles on their own.

Development of Sport Psychology

The genesis of sport psychology occurred in Germany following World War I with the development of sports institutes. Despite a delay in the development during World War II, progress was made in Europe. At the same time a few Americans were beginning to develop interest in a motor learning approach to sport psychology. During the 1940s and 1950s a number of research studies examined some measure of personality and/or perceptual-motor behavior which compared athletes with nonathletes. The research was of a "shotgun approach" fraught with methodological and design problems. No sustained efforts were made to understand the superior athlete and almost no communication existed between researchers and coaches.

In many ways the role of sport psychology has been misunderstood; the perception of the psychologist as a "shrink" or as someone who has a magical approach to success is inappropriate. As in physical preparation, psychological preparation cannot be accomplished in one session. Long-term training and development of skills are as essential in the psychological as in the physical realm of sport. The knowledge and technology explosion is here. Application of this, combined with a holistic approach to coaching, is becoming more acceptable. Although the use of sport psychology to enhance personal growth and to maximize athletic performance is relatively new, a program of practical support service is being incorporated into training and conditioning of elite athletes throughout the world. In most countries psychological training and conditioning is included in every practice session, with emphasis placed on such training in the final preparation for competition.

Most European countries have sport institutes to train their Olympic athletes. This type of structure is conducive to providing a staff of psychologists

to work with the athletes. Only in the last three years has there been a similar move in the U.S. with the development of the Olympic Training Center in Colorado Springs. In 1976 a Sports Medicine Committee was appointed by the USOC, and three subcommittees, including one devoted to sport psychology, were appointed to deal with specialized areas within sports medicine. However, compared to other nations, especially the Socialist ones, the U.S. is behind in providing psychological instruction for its athletes.

Sport Psychology in Socialist Countries

Since great emphasis is placed on victories in international competition and since there are limits to the physical strain that the human body can endure in training for athletic success, other means to promote and insure athletic mastery and dominance have been sought. The psychological preparation of the athlete is presently being emphasized in the Soviet system of athletic training. Focus is on the applied nature of psychological research. Khudadov, who incidentally was a guest at the Academy meeting in 1979, stated that psychologists assigned to national teams can be divided into three groups:

- those who limit their activity to psychodiagnostic research and compiling data on the psychological characteristics of athletes
- those who make practical recommendations regarding selection and psychological preparation of athletes
- those who work directly with athletes and coaches.

One responsibility of the psychologist assigned to a team is to conduct psychodiagnostic and personality tests. On the basis of these tests and year-round observations during training, the psychologist compiles psychological data on each athlete and makes recommendations to the coach for approaches to be used in preparing the athlete. The coach implements the psychological strategies. The only time that a psychologist might do it would be if he/she were qualified to coach the sport. The psychologist is also expected to help improve the athlete's motivation if needed, change the daily routine, alter self-evaluation and teach the athlete strategies for diversion, concentration, self-talk, etc. The teaching of techniques of self-control, relaxation, auto-suggestion, psychoregulation, autogenic and ideo-motor training are the sport psychologist's responsibilities.

Psychoregulation was developed in the Soviet Union in the 1960s to explore human capacity to regulate mentally physiological functions. Techniques were combined from meditation, yoga, hypnosis, relaxation and martial arts. Psychoregulation is used for quick recovery from competition, for recovery from fatigue, to provide brief rest periods, and to prevent psychosomatic injuries and complaints. It is also used for mental training of specific skills, to correct problems, increase speed of perception and reaction time, increase strength and flexibility and overcome psychological barriers preventing maximal performance. All USSR national teams are trained in psychic regulation so

they can develop their natural ability to influence their own physiological function by purposefully directed mental processes. Russian researchers have observed a normal curve for the learning psychoregulation among the general population. Although everyone has this ability to some degree, most are unaware of it and thus have not learned to use their resources.

One task of the Russian sport psychologist is to develop a behavioral profile of the most important psychological characteristics that have been scientifically substantiated within each sport. This profile serves as a model for selection of potential athletes and as a guide for influencing superior athletes. The model of the "ideal" athlete within each sport includes a combination of basic personality traits inherent in the individual, the psychophysiological characteristics, and the interaction of these to the behavioral demands of the particular sport.

The working conditions of the Soviet sport psychologist differ markedly from those in the free world nations. A sport psychologist in the USSR is a state employee assigned to a national team with expectancies that are of national significance. Athletes are selected, assembled and supported by the state for what is considered an important social, national and ideological pursuit of the government. As a result, there is assurance of their cooperation. With this type of support, the composition of the Soviet teams is fairly stable and psychologists have sufficient time to get to know the athletes and to establish a good working relationship with them. Most psychologists have coaching qualifications or an extensive knowledge of the sport being played by the athletes with whom they are working. In addition, coaches are professionally trained and thus have the background and knowledge to understand and utilize the information provided by specialists in psychology, physiology, biomechanics, etc. Major differences in motivation, social factors, social pressures and rewards are observed for Soviet athletes as compared to those in the Western world. Basic differences in the social makeup of individuals from various social systems produce an entirely different set of psychological ramifications of their performance.

Sport Psychology in the Free World

More information about psychological strategies and techniques utilized by the free world is known. The basic approach is to teach athletes personal development skills that will help them find ways to discover within themselves qualities and attributes that they have not learned how to use effectively. These skills help them maximize athletic performance and complement personal growth and development. The oneness rests squarely on the shoulders of the athlete who must assume responsibility for managing his/her own arousal and cognitive process.

The first step involves teaching the athlete some means of control and mastery over competitive anxiety. A modification of Jacobson's progressive relaxation technique is an effective procedure since it is somatically induced and since most athletes are fairly well tuned in to their bodies. The initial

teaching should probably follow a workout. However, once the skill has been learned, it is more effective prior to a practice session. This enables the athlete to eliminate tensions and distracting thoughts so that concentration can be focused on the practice itself. Other relaxation techniques can also be used such as yoga, meditation, autogenic training, biofeedback and imagery. The important thing is to discover an effective technique, then practice it as any other skill on a regular basis. Control of energy should also be taught so that the athlete learns how to mobilize energy when needed and conserve it through relaxation whenever possible. After control of anxiety and regulation of energy have been learned, techniques for improving concentration follow. The ability to relax and then to concentrate are basic skills essential to learning most other sport psychology techniques.

Concentration is basic to athletic excellence. The ability to focus completely all of one's energies and powers takes effort, time and practice to develop. Practicing the task of concentration on one item or object for as long as possible is one way to start. Whenever the mind wanders to another thought, disregard it and come back to the assigned object. The practice of "switching channels" each time concentration is lost and returning back improves the ability to focus on one thought.

The most effective technique to improve concentration is to stress long-lasting concentration with simple thoughts. From there one can build toward more complex and dynamic imageries. Depending on the sport, films and tapes can be used to help develop imagery for practice. These are especially useful when the athlete does not know how or what to imagine. As an example, the Olympic Field Hockey team's European tour included a game against England in Wembley Stadium which seats over 80,000 spectators. How can one prepare a team for that situation when, at most they have played before 200 friends and family plus a few dogs? Our solution was to obtain the film of the last U.S.-England match played at Wembley in 1962. As the players watched the film they concentrated on what the stadium looked like and what the "roar of the crowd" was like. From there the players moved to imagery and imagined they were there and that they could see the stadium and hear the spectators. When they arrived at Wembley Stadium, they had the feeling they had been there before. As a result, they were not overwhelmed or anxious about the stressful aspects of the new environment.

When it is impossible to provide a model or to simulate an actual event, desensitization can be used to help an athlete become less sensitive to situations that might cause problems. The athlete writes down a list of situations or conditions causing anxiety. Starting with a situation that is the least anxiety producing, the athlete relaxes, then mentally goes into the stressful situation for 30 seconds or more, then returns to relaxing again. The object is to have the stress situation trigger the relaxation. The more this is practiced, the more relaxation is associated with the stressor. This technique takes great practice. The more stress-producing situations should not be practiced until the less stressful ones are learned with control. Concentration is essential.

Mental practice, or the use of imagery, to practice certain skills and strategies is also effective once the athlete has learned to relax and concentrate. From there, the athlete is told to relax, close the eyes and rehearse the technique mentally. Imagery of this type can be categorized into two main approaches. First, there is external mental rehearsal, which is having the athlete imagine he/she is watching him/herself performing or like seeing oneself on film. This approach can be important in learning a new skill. The second approach is to rehearse "being" in the situation, actually feeling like one is performing the skill. Training and practice are needed to develop this internal, kinesthetic imagery technique. From the scant research reported, it appears that better athletes use internal mental imagery. It may be that they progress from external to internal imagery as they become more skilled. An aid in learning kinesthetic imagery is to stop the athlete immediately after a successful execution and have the athlete rehearse the execution mentally several times to reinforce what it felt like. Alternating physical and mental practice is also helpful.

Another technique is to reduce negative thoughts and reactions. These are generated by a lack of self-confidence. Self-confidence can be improved by minimizing negative thoughts or by self-talk. Cognitively, athletes can be taught to restructure thoughts and images that are maladaptive and add to anxiety. They can learn to identify negative self-statements and generate self-statements that are functional and task-oriented. Replacing dysfunctional or destructive self-talk with positive, self-coaching, self-talk can be accomplished by having the athlete share his/her feelings and thoughts just before and during a performance. The coach can help restructure them to be positive rather than negative.

Realistic goal setting is another exercise that provides a means for experiencing success, for charting progress and for evaluation throughout the program. The following factors must be considered in establishing goals:

- current level of performance, the time given to attain other levels, long-term goals
- the athlete's commitment — how much time and effort is the athlete willing to give?
- available opportunities, practice time, facilities, the coach's expertise, financial support, available competitions
- the athlete's potential

Evaluation of established goals provides a form of feedback which in turn provides reinforcement. Success becomes the positive reinforcement for continued effort and commitment.

One of the greatest problems of athletes whom this writer has worked with at the Olympic Training Center is sleep patterns. Almost without exception, there is concern about not being able to sleep, waking up during the night for long periods, and waking up early and not being able to return to sleep.

Relaxation techniques and concentration skills have been taught to control the cognitive activity that appears to keep them awake. This area has not received much attention; however, the circumstances surrounding the boycott talk and the uncertainty of the need for training may have created an atypical situation for the athletes.

Conclusions

European applied sport psychology, especially that of the Eastern Bloc, has made great strides and has developed a highly useful psychological approach to athletic training and conditioning for competition.

By comparison, research in sport psychology in the U.S. has been of little use to athletes who aspire to improve their athletic skills to the highest level. In general, the research findings have mainly been of benefit to beginning and average athletes. Rather than laboratory findings, elite athletes need personal attention and individual assistance in coping with the problems and pressures of high level performance.

Adapting what is known and bringing it to the coach and athlete has been a long time in coming. For the most part, only exceptional athletes who are having difficulty coping or who wish to maximize their performance by using psychological skills will have the motivation to seek help. Such assistance has generally not been part of regular training because coaches have not known what to include in their teaching or how to incorporate psychological skills. Although many individuals trained in psychology are interested in making application of their skills in the sports field, they are generally unsuccessful if they lack a sports background. It has been demonstrated that it is easier to train an interested coach in applied sport psychology than to teach a trained psychologist sport! It becomes apparent that coaches' training and preparation should include applied and clinical psychological skills and laboratory experience in using techniques. If coaches develop these skills, they would be more effective than sport psychologists in working with athletes. Thus, it appears that the sport psychologist's primary task is to teach coaches the skills needed to work with athletes.

As Klavora stated in summarizing the status of sport psychology,

> With only a few exceptions, the North American sport psychologists have eliminated themselves completely from the reality of sport practice. Locked between the walls of their laboratories, they have been busy testing theories and isolated laboratory behavior, and formulating complicated research paradigms which at best have been understood only by themselves. By following the route, they have been rewarded by publications in scientific journals and they have successfully played the vital "academic game" of scholarship. (Klavora & Daniel 1979, p. 297)

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DEVELOPMENTS IN EXERCISE PHYSIOLOGY AND APPLICATIONS TO HUMAN PERFORMANCE

Francis J. Nagle

In this Olympic year thoughts turn to the elite athlete and reports which attempt to elucidate the psychological and physiological factors contributing to the athlete's success. If I may be excused from doing so, I will slight this course of action and confine my remarks to developments in exercise physiology which pertain to the more ubiquitous garden variety athlete, or "athletic recreator," if you will.

In this essay I will discuss work that my colleagues and I have done at the University of Wisconsin–Madison dealing with the maximal oxygen uptake ($\dot{V}O_2$ max) function in the human and fill in the blanks with related work done by other investigators. I think the topic is particularly appropriate for the Academy for the concern is with a human function that has a direct bearing on physical fitness, athletic or sports performance and physical education programming.

If one were pressed to identify a single criterion measure of physical fitness, solid arguments could be made for the assessment of $\dot{V}O_2$ max as that measure. High maximal aerobic power must presume optimal functioning of the respiratory system, cardiovascular (CV) system and a skeletal muscle system with a high level of aerobic metabolic substance. Clearly, maximal aerobic power is a dynamic function. This is dramatically illustrated in Figure 1 from work reported by Saltin et al. (1968). From control levels, $\dot{V}O_2$ max declined 28% in five normal subjects following 20 days of bed rest. Following 60 days of training, $\dot{V}O_2$ max increased 60% from bed rest values and 18% from the intact control levels. So it is a function that must be nurtured to be maintained.

$\dot{V}O_2$ *max – Age and Training*

About seven years ago two physical education teachers from Madison (Wisconsin) Memorial High School approached my associates and me about our interest in a collaborative effort to assess $\dot{V}O_2$ max in a cross section of their student body. They were in the midst of a curriculum study for grades 9-12 and realized there was a scarcity of data on the aerobic work capability of high school students. Astrand in Scandanavia and various investigators in Japan had published observations and in all cases the "n" was small. Knuttgen (1967), who had used the bicycle ergometer to assess maximal aerobic power in 95 male and 95 female high school students in Milton, Massachusetts, had produced the only definitive study on U.S. high school students and it seemed worthwhile to pursue the matter further in the interest of sound curricular planning.

With a running treadmill test, we (Nagle, Hagberg & Kamei 1977) assessed $\dot{V}O_2$ max on 120 boys and 120 girls, randomly selected from the 2,400

students, in groups of 30 from grades 9 through 12. Table 1 shows the pertinent mean values for boys and girls. The subjects were found to be quite representative of U.S. boys and girls (14 to 17 years old) in height and weight. The boys' mean $\dot{V}O_2$ max was 54.7 ± 5.6 and the girls' 40.8 ± 4.0 ml/kgxmiñ¹. This represents aerobic work at 15.6 × rest and 11.7 × rest for boys and girls, respectively. These values are high relative to values established for adult groups. The parents of these children should be in such condition.

In Table 2, which shows the boys' values for $\dot{V}O_2$ max in grades 9 through 12, one observes that the function, expressed per Kg, is not changed significantly from age 14 to 17. Table 3 shows the distribution of these same values for girls. Again there was no significant change over the four high school years.

On the bar graph of Figure 2, the total distribution of $\dot{V}O_2$ max levels for boys is shown. With regard to aerobic performance, the boys who attain the mean $\dot{V}O_2$ max of 54.7 ml/kgxmiñ¹ or better are capable of a continuous 2- or 3-mile run at 6.5 to 7.0 min mile pace. This is assuming a minimum level of training at those distances. Even the least capable boys, those identified far to the left, appear capable of an 8- to 9-minute mile pace for 2 to 3 miles. These estimates are based on the energy costs of runs at various speeds. Such data have been reported by Costill and Fox (1969) and Daniels and Oldridge (1970), among others. Figure 3 shows similar data for girls. Those attaining the mean of 40.7 ml/kg/min or better are capable of an 8½- to 9-minute mile pace for 2 to 3 miles. Those identified to the far left, i.e., those with $\dot{V}O_2$ max <34 ml/kgxmiñ¹, would be hard pressed to maintain a jogging pace for any period of time. If we identified a group requiring corrective or adaptive exercise, this was the group. Most of these girls were overweight. By and large, however, these high school youths were in a good to excellent state of aerobic training.

When we fitted our $\dot{V}O_2$ max means for boys 14 to 17 years old to age group data supplied by other investigators, we obtained the curve depicted in Figure 4. Our data fall on the curve between $\dot{V}O_2$ max data for 10-year-olds, data from Cunningham et al. (1977) and data from Vogel and Patton (1975) measured on 18-year-old soldiers. The following three points were established by Vogel and Patton for U.S. soldiers of increasing age (20-35 years) and the remaining points by Dehn and Bruce (1972) for older male subjects. It all adds up to a decline in the $\dot{V}O_2$ max function of 0.49 ml/kgxmiñ¹/year. The broken line with asterisks is $\dot{V}O_2$ max data for a single subject on whom this function was assessed over 15 years. There being no change, it suggests that lack of activity is an important contributor to the decline in the $\dot{V}O_2$ max function.

In Figure 5 our data are plotted on a $\dot{V}O_2$ max – age curve reported by Drinkwater, Horvath and Welk (1975). Our mean for 14- to 17-year old girls fell slightly under the mean for 21 subjects of this age reported by Drinkwater, Horvath and Welk. Again with age there is a sharp decline in the $\dot{V}O_2$ max function amounting to 0.37 ml/kgxmiñ¹/yr. Drinkwater, Horvath and Welk reported this decline as .32ml/kgxmiñ¹. In a 1979 paper, Plowman, Drinkwater and Horvath retested subjects initially tested in 1975. They found no decline in

$\dot{V}O_2$ max for subjects in their third decade but did observe a decline in $\dot{V}O_2$ max in subjects in the fourth, fifth and sixth decades of life.

We, too, looked at longitudinal effects on the $\dot{V}O_2$ max function but these observations were limited to 20 young males 10 to 17 years of age who were active in cross-country running in the Albany, Wisconsin school system. We followed these youngsters, retesting them every six months over a six-year period. Figure 6 shows height and weight changes during this period. Compared with cross-sectional data by Rauh, Shumshy and Witt (1967), who reported height, weight data for 8,000 boys, our subjects were slightly lighter. There is no evidence of accelerated growth, as Ekblom (1969) reported for young boys during a 32-month period of training.

Figure 7 shows the weight change with age for these 20 boys and Figure 8 the $\dot{V}O_2$ max change with age. The slope of the weight and $\dot{V}O_2$ max curves with age are similar. When $\dot{V}O_2$ max was corrected for body weight, as seen in Figure 9, no change in $\dot{V}O_2$ max was observed from age 10 to 17 years. Remember these youngsters trained throughout the period of the observations. It should also be noted that the mean $\dot{V}O_2$ max of 61.1 $\pm$ 4.9 is about a standard deviation above the mean $\dot{V}O_2$ max (54.7 ml/kgxmin^{-1}) measured in our random sample of Memorial High School boys. This difference could be expected with aerobic training. The remarkable observation is that the $\dot{V}O_2$ max was not increased with training.

A further interesting observation, demonstrated in Figure 10, is that when $\dot{V}O_2$ max was measured at a constant running speed 202 m/min (8-minute mile pace), the energy costs declined with age. Note that a steady decline occurred in energy costs from 55 to 46 ml/kgxmin^{-1} in a group of four youngsters as age increased from 10 to 12 years. For a group of five entering the study at age 12, the energy cost was significantly higher on the average (52.3 ml/kgxmin^{-1}) than that terminally observed on 10- to 12-year-olds. Both age and some training factor appear to be involved in this response. Figure 11 presents this response for ungrouped data and again clearly shows a steady decline in energy cost in running at constant speed with age and training.

Table 4 shows 1-mile and 2-mile performance data for these subjects. It is observed that 1-mile and 2-mile times are improved considerably with no change observed in $\dot{V}O_2$ max expressed per kg body wt. What was changed was the metabolic economy (efficiency) with which running performances were accomplished. Daniels, Yarbrough and Foster (1978b) have shown similar improvements in running performance with no change in $\dot{V}O_2$ max in college age subjects. In Figure 12, $\dot{V}O_2$ max is related to performance in an 880-yard and a 2-mile run for untrained physical education students and recreational runners. Series A performances improved from T_1 to T_3 while $\dot{V}O_2$ max increased only between T_1 and T_2. In Series B there was no change in $\dot{V}O_2$ max from T_2 to T_3 but performance times decreased significantly nonetheless.

The capacity to increase $\dot{V}O_2$ max continues to be a perplexing problem. In the studies just cited, continued hard running training over years (Daniels et al.

1978a) and over 10 weeks (Daniels, Yarbrough & Foster 1978b) showed no appreciable change in $\dot{V}O_2$ max. In a 10-week aerobic training study, Hickson, Bomge and Holloszy (1977) reported a mean increase in $\dot{V}O_2$ max of 44% for eight adult subjects, 24 to 42 years of age. This increase was quite linear over the 10 weeks of training, as Figure 13 shows. Two factors appear important in contributing to this large increment in aerobic power: (1) when the study was initiated, three of eight subjects possessed very low aerobic power, 22.8, 26.7, 33.3 ml/kgxmiñ^1 respectively, and (2) the training regimen was extremely hard. Subjects worked progressively to $\dot{V}O_2$ max five times in 30 minutes.

Saltin et al. (1977) have hypothesized that the $\dot{V}O_2$ max function may be increased by 40% with training, but over a period of two years (Figure 14). Their two-month training projection for an increase in $\dot{V}O_2$ max is 20%, which is consistent with several training studies reported in the literature and is based on a sample population not debilitated or grossly sedentary at the initiation of the studies. However, given this same population, I do not think there is adequate longitudinal data to suggest that the $\dot{V}O_2$ max can be increased an additional 20% between the 2nd and 24th month of training. Our longitudinal data on the Albany youngsters suggests this is not possible. The data of Daniels, Yarbrough and Foster (1978b), showing no change in $\dot{V}O_2$ max over 10 weeks of increasingly hard training, also tends to refute the 40% long term training gain.

Limitation to $\dot{V}O_2$ *max*

Discussion continues relative to what factor or factors limit $\dot{V}O_2$. Is it O_2 transport by the CV system or the metabolic capability of the active muscles? Numerous studies where O_2 was administered in high concentrations to exercising humans have been reported in which $\dot{V}O_2$ is increased. This would suggest that the O_2 transport system, i.e., the CV system, is limiting O_2 uptake. In most of these studies $\dot{V}O_2$ was measured using respiratory gas equations. This procedure is clearly suspect because of problems in measuring ventilatory volumes precisely or in avoiding N_2 contamination in sampling gas fractions (Figure 15). In those studies in which $\dot{V}O_2$ was measured at the tissues by the cardiovascular Fick equation ($\dot{V}O_2$ = C.O × a-v O_2 diff.), increases in $\dot{V}O_2$ in hyperoxia have not been observed. This writer and others (*q.v.* Stanek et al. 1979) performed $\dot{V}O_2$ determinations with both procedures simultaneously in exercising ponies and found a wide discrepancy in the measured $\dot{V}O_2$. Table 5 shows that in hyperoxia (60% O_2), when $\dot{V}O_2$ was measured by respiratory gas equations, $\dot{V}O_2$ was increased. When measured by the circulatory Fick equation, it did not change. Welch et al. (1977) and Kaijer (1970) have shown similar findings which tend to suggest that the CV system is not limiting.

On the other hand, Gollnick et al. (1972), in a report on training, fiber typing and muscle enzyme activity, suggested that on the basis of succinic dehydrogenase activity (a muscle enzyme in the Krebs Cycle), muscle has more than ample aerobic machinery for handling all the O_2 presented to it. Furthermore, Gledhill and his associates (1980) showed that $\dot{V}O_2$ max could be increased following reinfusion of blood removal from subjects six weeks

previously, as seen in Table 6. These are mean values for 11 subjects. With reinfusion of 1000 and 1500ml of blood, $\dot{V}O_2$ max was increased by 240 and 380ml/min respectively (Daniels et al. 1978b). These data point clearly to a cardiovascular limitation in the $\dot{V}O_2$ max function.

Summary

The $\dot{V}O_2$ max is a dynamic function necessitating an active life for its maintenance. Although this function declines with age, the decline can be retarded with aerobic training.

If the $\dot{V}O_2$ max data presented in this essay for high school youths are representative, and there is reason to believe they are, they suggest that males and females in this age group have a good to excellent level of aerobic power. The data show no change in the $\dot{V}O_2$ max function over the high school age period.

Young males aerobically trained for distance running have a mean $\dot{V}O_2$ max about one standard deviation above the mean for boys of the same age. Age, growth and aerobic training do not influence $\dot{V}O_2$ max expressed per kilogram of body weight between youngsters 10 to 17 years old. Aerobic sport performance can be increased dramatically despite there being no increase in $\dot{V}O_2$ max. Some of this is because of a decreased energy cost of running performances at submaximal $\dot{V}O_2$ demands. Growth and training have been identified as factors in lowering metabolic costs.

Improvement in $\dot{V}O_2$ max would appear to be a function of the initial training level and training intensity. There is no good evidence that improvements of 40-45% in $\dot{V}O_2$ max could apply to females and males with an average $\dot{V}O_2$ max at the outset.

Finally, various forms of intervention have shown the CV system to be limiting to $\dot{V}O_2$ max. However, it remains unclear as to whether muscle and its aerobic capacity play a role in limiting this function.

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Figure 1. Changes in $\dot{V}O_2$ max with bed rest and training. Saltin et al. (1968).

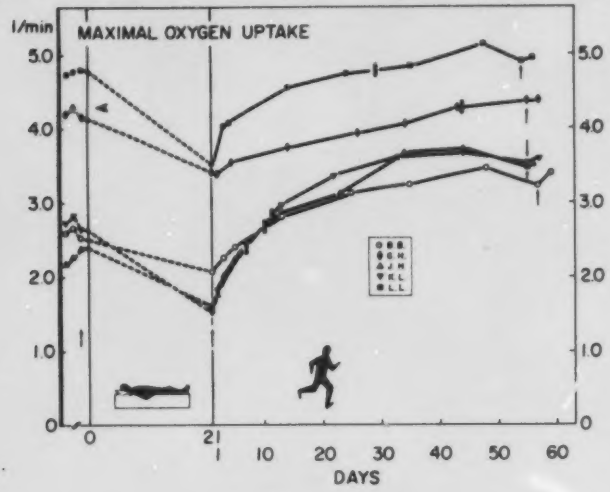


Figure 2. $\dot{V}O_2$ max distribution of values-boys 14 to 17 years.

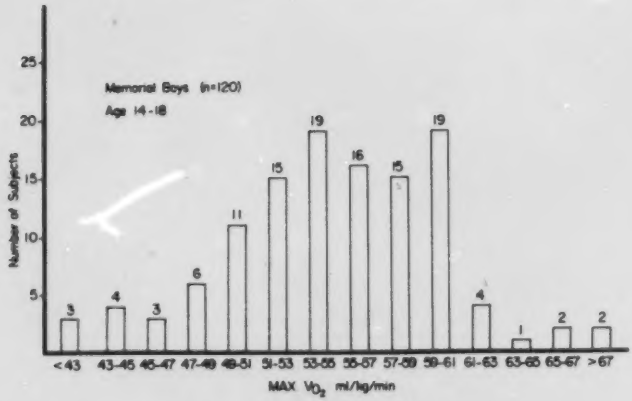


Figure 3. $\dot{V}O_2$ max distribution of values-girls 14 to 17 years.

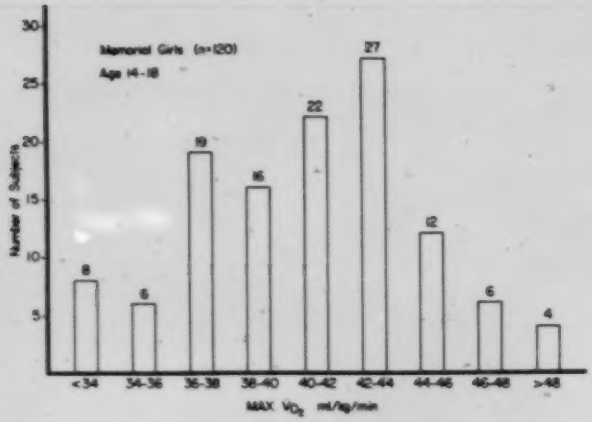


Figure 4. Decrements in $\dot{V}O_2$ max with age — males.

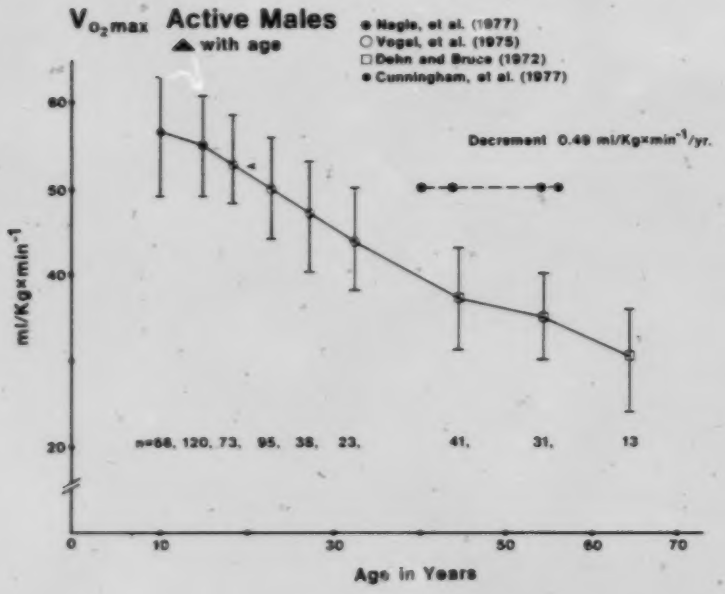


Figure 5. Decrements in $\dot{V}O_2$ max with age — girls.

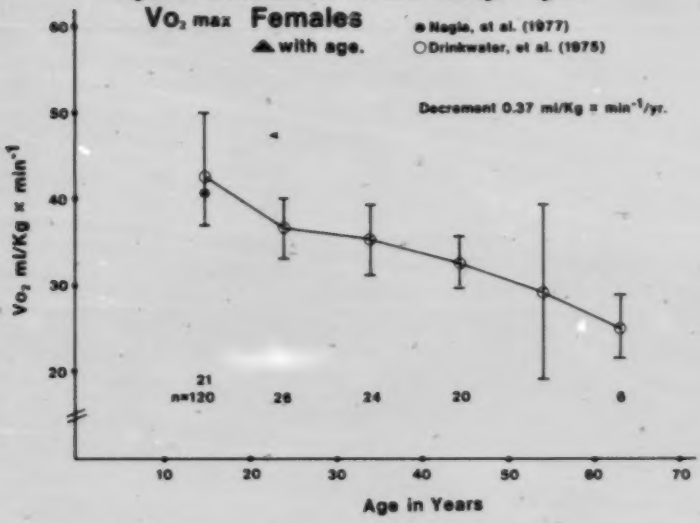


Figure 6. Height, weight data for young boys 10 to 17 years.

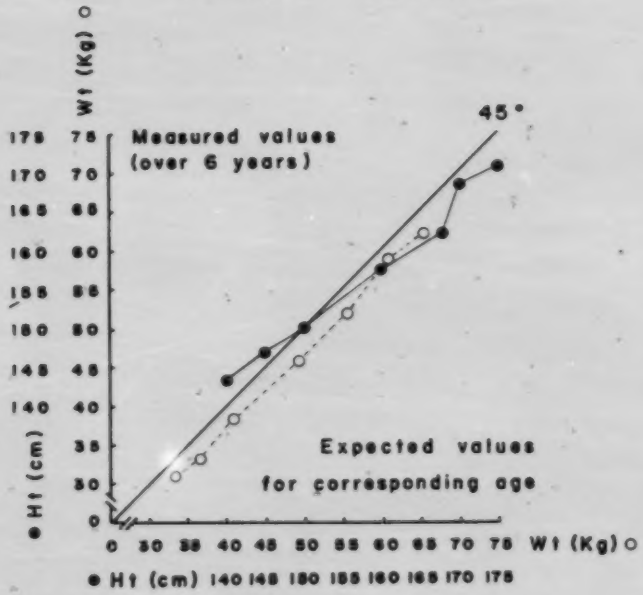


Figure 7. Weight changes with age — active boys 10 to 17 years.

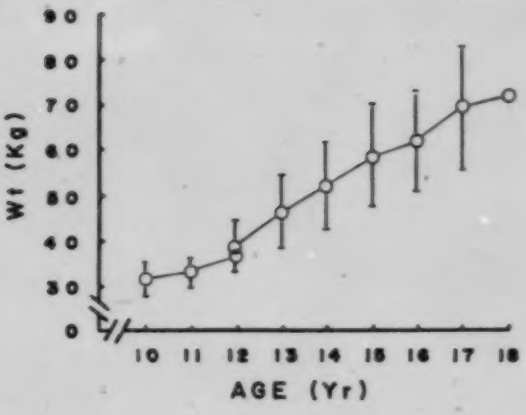


Figure 8. $\dot{V}O_2$ max changes with age — active boys 10 to 17 years.

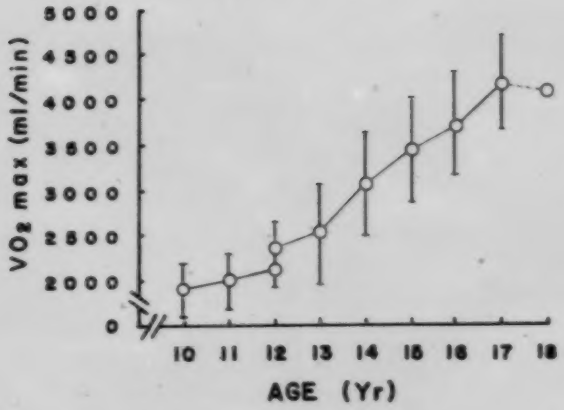


Figure 9. $\dot{V}O_2$ max in ml/kgxmin^{-1} changes with age — active boys 10 to 17 years.

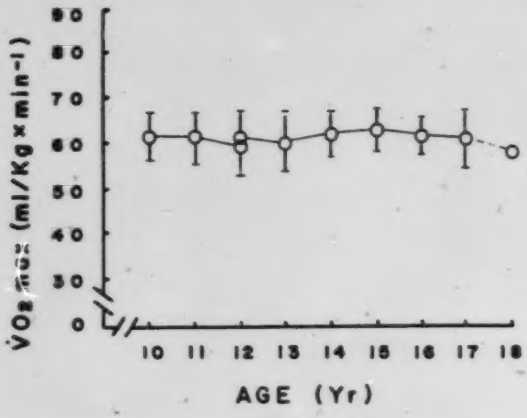


Figure 10. Decline in energy costs in running at 202m/min in active boys 10 to 17 years. Grouped data.

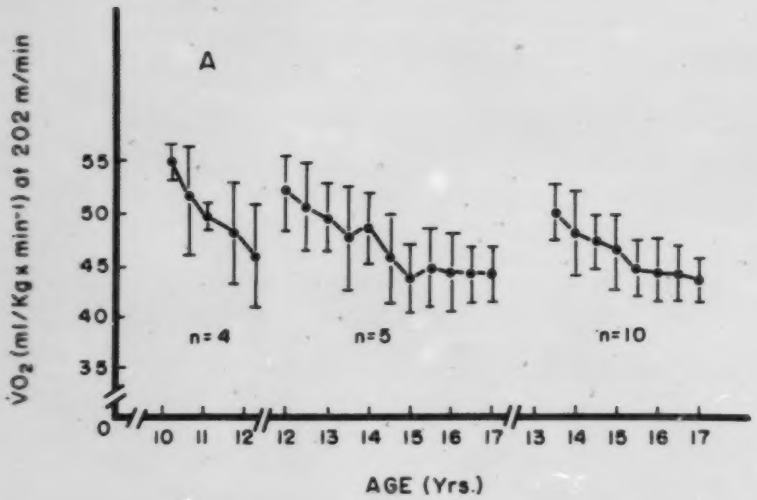


Figure 11. Decline in energy cost in running at 202m/min in active boys 10 to 17 years. Ungrouped data.

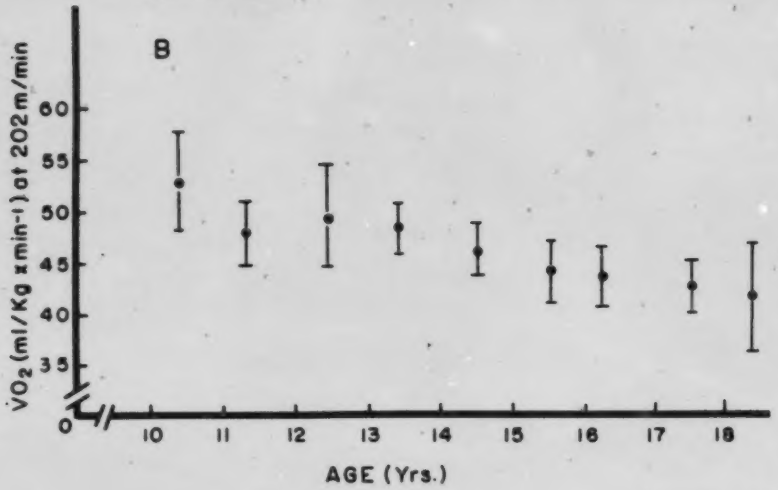
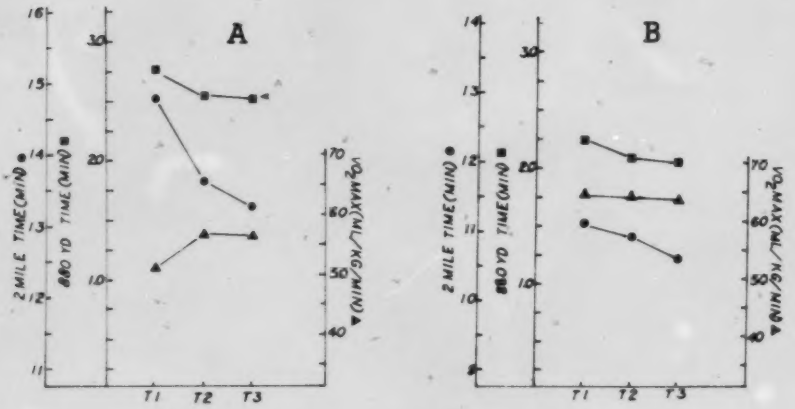


Figure 12. $\dot{V}O_2$ max and performance times for college age males. (Daniels, Yarbrough & Foster 1978)



A series— untrained physical education students.

B series — recreational runners.

Figure 13. $\dot{V}O_2$ max increases over 10-week training study. (Hickson, Bomge & Holloszy 1977)

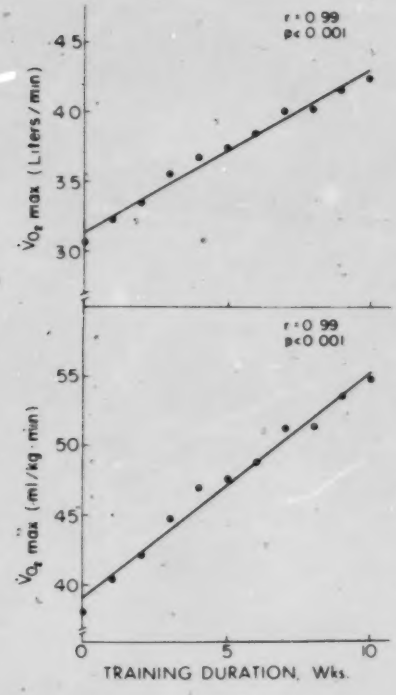


Figure 14. $\dot{V}O_2$ max and other physiological and biochemical changes with training. Saltin et al. (1977)

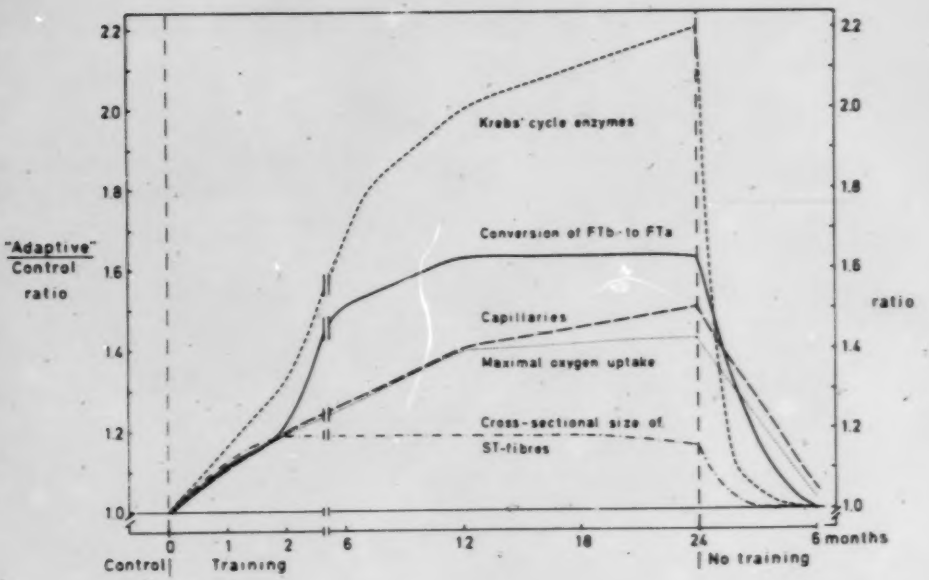


Figure 15. Respiratory gas equations.

FICK RESPIRATORY GAS EQUATION

$$\dot{V}_{O_2} = \dot{V}_I F_{I_{O_2}} - \dot{V}_E F_{E_{O_2}}$$

HALDANE TRANSFORMATION OF FICK EQUATION

$$\dot{V}_{O_2} = \dot{V}_E \left[\frac{F_{E_{N_2}}}{F_{I_{N_2}}} \times F_{I_{O_2}} - F_{E_{O_2}} \right]$$

Table 1
Physiological Responses of Boys and Girls, 14 to 17 Years

	♂= 120 Boys	♀= 120 Girls
Mean age (years)	15.4 ± 1.2	15.5 ± 1.2
Height (cm)	175.4 ± 7.8	164.3 ± 6.8
Weight (kg)	66.6 ± 11.1	57.1 ± 8.1
HR_{max}(bpm)	200.6 ± 13.2	201.2 ± 10.3
$\dot{V}_{E_{BTPS}}$	114.3 ± 18.0	77.7 ± 10.9
$\dot{V}_{O_2\,max}$ l/min	3.62 ± 0.52	2.31 ± 0.28
$\dot{V}_{O_2\,max}$ ml/kgxmin^{-1}	54.7 ± 5.6	40.8 ± 4.0

Table 2
$\dot{V}O_2$ Max Across Age Groups — Boys 14 to 17 Years

n	30	30	30	30
age	13.8 ± .48	14.9 ± .52	16.0 ± .18	16.9 ± .48
$\dot{V}_{O_2\,max}$ l/min	3.16 ± .48	3.74 ± .31	3.71 ± .42	3.87 ± .54
$\dot{V}_{O_2\,max}$ ml/kgxmin^{-1}	54.0 ± 5.9	56.3 ± 5.8	54.0 ± 3.5	54.7 ± 6.7

Table 3
$\dot{V}O_2$ Max Across Age Groups — Girls 14 to 17 Years

n	30	30	30	30
age	14.0 ± .18	14.9 ± .55	16.0 ± .41	17.0 ± .53
$\dot{V}_{O_2\,max}$ l/min	2.27 ± .25	2.30 ± .28	2.36 ± .34	2.34 ± .26
$\dot{V}_{O_2\,max}$ ml/kgxmin^{-1}	41.1 ± 3.7	41.2 ± .37	40.7 ± 4.0	40.2 ± 4.7

Table 4
1-mile and 2-mile Performance Data for Active Boys 10 to 17 Years

	Group A (N = 4)		Group B (N = 7)	
Age (year)	10	12	12	17
1-mile time	6.12 ±20.5	5.51* ±12.7	5.52 ±24.2	5.07 ±22.9
2-mile time	—	—	12.30 ±52.2	10.35* ±32.8
$\dot{V}_{O_2\ max}$ ml/kgxmin $^{-1}$	61.1 ±4.9	59.0 ±6.6	62.7 +5.2	61.2 +4.4
$\dot{V}_{O_2\ sub\ max}$ ml/kgxmin $^{-1}$	53.9 ±3.3	45.7** ±5.1	52.8 ±3.6	42.2** ±2.7

* change in race time sig. .01 level
** change in $\dot{V}_{O_2\ sub\ max}$ sig. .01 level

Table 5
$\dot{V}O_2$ in Normoxia and Hyperoxia in Exercising Ponies

$\dot{V}_{O_2}$ ml/kgxmin $^{-1}$	Normoxia	Hyperoxia
Haldane equation	40.8±1.5	56.7±3.0
Fick equation	41.0±2.0	42.3±1.7

115 meters/min, 10% grade (n=8)
Stanek et al. (1979)

Table 6
$\dot{V}O_2$ Max Before and After Reinfusion of 1000 and 1500ml Blood

		Post Reinfusion	
	Control	1000 ml	1500 ml
Hb gm·100 ml^{-1}	16.0± 0.2	17.2± 0.1	17.6± 0.1
Hct%	45.6± 0.3	49.2± 0.3	50.5± 0.2
CaO_2 ml·100 ml^{-1}	20.0± 0.6	21.3± 0.2	22.0± 0.4
$\dot{V}O_2$max l·min^{-1}	5.04± 0.21	5.24± 0.22	5.38± 0.25

Gledhill et al. (1980)

THE OLYMPIC MOVEMENT AND PHYSICAL EDUCATION

Betty Spears

Every four years the Olympic Games live vividly through television in millions of American homes. In other years, thousands of young athletes dream of the Olympic Games and Olympic gold. In over 130 countries they train endlessly, compete nationally and internationally and strive for human excellence through sport — one of the aims of the Olympic Movement. As physical educators, we should examine the compatibility of the Olympic Movement with physical education.

The Olympic Movement is the creation of the imaginative Pierre de Coubertin who recast the classical Greek athletic ideal of human excellence into a new ideal. de Coubertin passionately believed in his idea of Olympism, which embodies the following concepts:

- promote the development of those physical and moral qualities which are the basis of sport
- educate young people through sport in a spirit of better understanding between each other and of friendship, thereby helping to build a better and more peaceful world
- spread the Olympic principles throughout the world, thereby creating international goodwill
- bring together the athletes of the world in a great four-yearly festival of sport (Comité International Olympique 1978).

These idealistic, all-inclusive purposes appear in the First Principle of the Olympic Charter and form the framework for the Olympic Movement.

In a perceptive analysis of the Olympics, Lenk points out that the Olympic idea is neither a uniform nor clearly defined concept but a vague idea whose very vagueness permits athletes and people from many different countries to relate to the central concepts of the Olympic Movement. According to Lenk (1976), "its accommodating character and manifold meanings and, thus, its multifariousness, multi-identifiability, and multi-compatibility are . . . a necessary condition for the great attraction which the Olympic Movement has for people of different cultures and various nations."

Multi-compatibility suggests agreement with a central core of beliefs, values and practices, with possible disagreement on peripheral issues and details. While we physical educators might disagree with the companies which advertise on Olympic television programs or deplore the absence of women on the International Olympic Committee, we find the aims of the Olympic First Principle compatible with our own. To what extent are the Olympic Movement and physical education really compatible? Are we competing in separate arenas or are we playing on adjacent fields where we can see each other, sometimes

returning a misdirected ball, and occasionally exchanging views after the games? Should we consider sometime mixing the teams and playing together?

To help answer these questions, let us briefly compare the beginnings of organized physical education in the United States with those of the Olympic Movement and then examine the purpose and programs of the International Olympic Committee and those of the United States Olympic Committee.

Early Beginnings

The Olympic Movement and organized physical education in this country are about the same age. The American Association for the Advancement of Physical Education was founded in 1885 and just four years later, in Boston, came the 1889 Conference in the Interest of Physical Training. The major speakers at the conference, such as Hartwell, Hitchcock, Sargent, and Posse — dominating figures in physical education of that period — presented their ideas on the best system of gymnastics and exercise to serve the purposes of American physical training in public schools. Only one lone voice supported sport at this conference, Pierre de Coubertin, a 26-year-old foreigner travelling in America at the time. When asked to express his views, he enthusiastically declared that "no system . . . stands higher than the English athletic sport system as understood and explained by the greatest of modern teachers, Thomas Arnold of Rugby." He also praised "the wonderful influence of athletic sports on the moral and social qualities of boys" (Barrows 1890).

As early as 1889, then, de Coubertin had begun to formulate the principles of Olympism which he incorporated into the modern Olympic Games, first celebrated in 1896. From their inception, the Games consisted only of sport events. In contrast, physical education focused first on gymnastics and exercise. Around 1900 it began to include dance and some sports for women, and by the 1920s, it encompassed exercise, dance, sport and other activities in both men's and women's programs. It is clear that the Olympic Movement and American physical education began in different arenas, one promoting amateur sport and international goodwill, the other gymnastics, exercise, dance and sport to improve the health and vigor of youths.

International Olympic Committee

de Coubertin placed responsibility for the conduct of the Olympic Games in the hands of an International Olympic Committee (IOC). Composed of men interested in promoting amateur sport, the IOC has the following duties:

- encourage the organization and development of sport and sports competitions
- inspire and lead sport within the Olympic ideal, thereby promoting and strengthening friendship between the sportsmen of all countries
- ensure the regular celebrations of the Games

- make the Games ever more worthy of their glorious history and of the high ideals which inspired their revival by Baron Pierre de Coubertin and his associates (Comité International Olympique 1978).

The general language is similar to that describing the ideals of the Olympic Movement. The most specific aspect of the IOC's duties is the regular celebration of the Games. In addition, the IOC promotes amateur sport and encourages the ideals of Olympism. The sport programs are conducted by international sport federations, one federation for each Olympic sport. Each country competing in the Olympic Games has a National Olympic Committee whose responsibility is to "ensure the development and safe guarding of the Olympic Movement and sport in each country (Comité International Olympique 1978).

United States Olympic Committee

In the United States James E. Sullivan formed in 1896 the first Olympic Committee, which has evolved from a small group of interested men to the central coordinating agency for sports in the Olympic and Pan American Games. The Olympic Movement in the United States received federal recognition in 1950 when the 81st Congress passed Public Law 805 incorporating the United States Olympic Association, now known as the United States Olympic Committee (USOC).

Over the years, the relationships between the USOC and physical education have been at times compatible and at other times not so compatible. Sometimes we have played on adjacent fields, but have interrupted each other's games. Women physical educators protested women's events in the 1928 and 1932 Olympic Games because of their philosophic stance which endorsed sport and physical activities for *all* women and "strongly condemned . . . intensive . . . training of the few" (Sefton 1941). However, when the United States Olympic Development Committee approached the Division of Girls and Women's Sports in 1963 with the suggestion of promotional institutes in Olympic sports, the women physical educators joined the team and conducted five institutes between 1963 and 1969.

Many Olympic athletes, especially males, are college trained. As recently as the 1976 summer Games, 48 medals were won by college men who had participated in intercollegiate athletics under the auspices of the National Collegiate Athletic Association (NCAA). For years, however, an uneasy liaison has existed between the NCAA and the Olympic Committee. The well-known feud between the NCAA and the Amateur Athletic Union (AAU) fought within the United States Olympic movement has affected the development of amateur sport in this country. For years, the NCAA retained membership in the USOC but withdrew in 1972 over controversies involving the national sport governing bodies, but rejoined after the 1978 Amateur Sports Act.

Internal disagreements among the sport associations such as the AAU and the United States Gymnastics Federation which are not directly connected with schools and colleges have adversely affected the development of American

Olympic athletes in particular and amateur sport in general. Furthermore, after the 1972 Olympic Games in Munich in which athletes did not arrive at events on time, swimmer Rick DeMont used a questionable drug for his asthma, and the United States lost a hotly contested basketball game, criticisms of the USOC and the development of American amateur sport increased. After efforts by various sport associations to improve the situation failed, President Gerald Ford appointed a Commission on Olympic Sports in 1975 to "determine what factors impede or tend to impede the United States from fielding its best teams in international competition" (*Final Report . . . Sports* 1977). After the Commission's investigation and report, the Amateur Sports Act of 1978 was introduced to the Congress, which voted it into law on November 8, 1978.

This act effectively reorganized amateur sport in this country. The central coordinating body of amateur sport is, by law, the United States Olympic Committee (USOC). The revised purposes of the USOC are summarized as follows:

- establish national goals for amateur athletic activities
- exercise exclusive jurisdiction over all matters pertaining to United States participation in the Olympic Games and the Pan American Games
- coordinate and develop amateur athletic activity in the United States directly relating to international sport
- promote and encourage physical fitness and public participation in amateur athletic activities
- assist organizations and persons concerned with sports in the development of amateur athletic programs for amateur athletes
- provide for the resolution of conflicts and disputes in amateur athletics
- provide and coordinate technical information on physical training, equipment design, coaching and performance analysis
- encourage and support research, development and dissemination of information in sports medicine and sports safety
- encourage and provide assistance to amateur athletics for women and, where possible, for handicapped individuals and for individuals of racial and ethnic minorities (United States Olympic Committee 1979).

These purposes, mandated by the federal government, should be examined closely by physical educators. It is true that representatives of the American Alliance for Health, Physical Education, Recreation and Dance, of the NCAA, of the Association for Intercollegiate Athletics for Women, and other college associations are members of the United States Olympic Committee. However, national goals for amateur athletics will be set not by professional physical education associations or collegiate governing bodies, but by the USOC. One would expect this national group to have jurisdiction over all matters dealing with international sport, but might not expect to find physical

fitness, coaching, performance analysis, and research defined by federal law as part of the USOC's responsibilities. The increasing influence on national sport programs by the USOC, and therefore, indirectly, by the IOC, needs to be considered seriously by physical educators.

The program of Olympic sports is the IOC's responsibility. Such choice seems a legitimate area of responsibility, and at present Olympic sports meet specific criteria determined by the IOC. Men's summer sports must be played in at least 40 countries on 3 continents; women's summer sports, in 25 countries on 2 continents. Men's winter sports must be played in at least 25 countries on 2 continents; women's winter sports in 20 countries on 2 continents. The Olympic sports program thus represents the world of sport and not any one nation's sport preferences.

The summer sports in which men compete include archery, athletics, basketball, boxing, canoeing, cycling, fencing, football (soccer), gymnastics, handball (team), field hockey, judo, modern pentathlon, rowing, swimming (including diving and water polo), volleyball, weightlifting, and wrestling. Events for women are held in archery, athletics, basketball, kayaking, fencing, field hockey, gymnastics, swimming and diving, handball (team), rowing, and volleyball. Women and men compete for positions on teams in equestrian sports, shooting and yachting.

The winter sports in which men compete are biathlon, bobsledding, figure skating, ice hockey, luge, speed skating, and Alpine and Nordic skiing. Events for women are held in luge, figure skating and speed skating, and Alpine and Nordic skiing.

How many of these sports do we teach in our institutions? Are they intercollegiate sports? Do we agree with the choice of sports for the Olympic Games? Do physical education sport programs provide students with more adequate, comparable, or less adequate sport experiences than those provided by Olympic sports?

American athletes, predictably, do not perform well in all Olympic sports. The Olympic program represents world sport, which excludes two American favorites, football and baseball. Thirteen sports identified as underdeveloped in this country are field hockey, team handball, volleyball, water polo, biathlon, bobsled, canoeing and kayaking, fencing, luge, modern pentathlon, ski jumping, long distance speed skating and Graeco-Roman wrestling. While many factors may account for the lack of their development, the USOC must still produce athletes and teams in these sports.

To improve our athletes' performance and to help develop Olympic sports in this country, the USOC has undertaken several programs. One program is the National Training Centers. The first center, established on the site of the 1960 Winter Olympic Games in Squaw Valley, opened in December 1976, and a second center was established a year later in Colorado Springs. Formerly, American team sport squads have had insufficient experience in playing to-

gether. Some athletes in individual sports live in isolated parts of the country and have thus had difficulty maintaining their training and competitive schedules. The national governing bodies of each sport selects the athletes, coaches and support personnel and provide their transportation to the centers. The USOC provides athletic facilities and daily living arrangements. Both centers are equipped with laboratories to test the athletes and obtain important sports medicine data. The centers create an atmosphere in which hundreds of men and women dedicate themselves to achieving athletic excellence. In the brief time that they have been in operation, the centers are considered successful.

Another promising USOC promotional effort is the National Sports Festival. The idea originated in 1963 with USOC President Robert J. Kane. Fifteen years later, in 1978, the first festival was held in Colorado Springs with competitions in 20 Olympic sports and two Pan American sports. The athletes, who are selected by their national governing bodies, compete in sectional teams representing the East, South, Midwest and West. The USOC plans to conduct a national sports festival in each year between the Olympic Games. The festivals serve to improve Olympic athletes' performance and inform the American public about Olympic sports and the Olympic Movement.

The Olympic Movement and the spirit of Olympism are also promoted by the USOC Educational Council. The Council works closely with the national governing bodies to provide excellent American representation at the International Olympic Academy, to organize the National Olympic Academy, and to engage in other efforts to educate Americans about Olympism. The International Olympic Academy, held two weeks each summer at Olympia, Greece, brings together athletes and sport scholars from all over the world. Sessions include papers and discussions on various Olympic topics such as sportsmanship, the growth of the Olympic Movement and the history of the Olympics. A corresponding American academy, the National Olympic Academy, was initiated by Harold Friermood to educate Americans about the Olympic Movement and its tenets. It is held in different parts of the country to reach more people. The first Academies were held in Illinois and Utah, and National Olympic Academy IV will be held at Indiana University in May 1980.

In a very different area of education, members of the USOC Educational Council, in cooperation with the United States Office of Education, have developed curriculum infusion projects in New York and Georgia. The New York project, designed for grades kindergarten through 6, includes suggested content dealing with the Olympics in art, language arts, social studies, health, mathematics/science, music, and physical education. The Georgia project covers these same areas for grades 7 through 12. The proposals for physical education vary from identifying sports and logos in the K-2 groups, to planning and conducting a school-wide Olympic Festival in the higher grades. In all the areas of learning, the suggestions incorporate basic Olympic concepts as well as facts about the Olympic Movement, Olympic sports, physiology, and exercise science. In addition, the USOC Educational Council cooperates with international sport projects such as those under UNESCO auspices.

What is occurring in physical education which the USOC and the IOC might consider compatible with their purposes and programs? First, there are the Olympic athletes themselves who are students and participants in our physical education programs and classes. Present and former athletes have introduced techniques such as the Fosbury Flop and Comaneci's gymnastic moves, which quickly diffuse into our programs. Second, there are the coaches, trainers and exercise scientists who help achieve new techniques, train and protect the athletes, and seek answers to fundamental questions through basic research. Third, there is the increased study and application of sport theory. Sport psychologists actively consult with and advise our athletes. Courses in comparative sport, the philosophy of sport, sociology of sport, sport management, and the history of sport may include material on the Olympic Movement. Also, several institutions teach courses on the Olympic Games, including the ancient and modern Games and analyses of pertinent issues in international sport.

This brief examination suggests that in several aspects there is a compatibility between the Olympic Movement and physical education. While sometimes we have performed in different arenas and have at times interrupted each other's game, at other times we have played side by side. What would happen if we mixed the teams and played together?

- Can you see yourself incorporating Olympic infusion concepts in your curriculum courses?
- Can you envision your university cooperating with the USOC National Training Centers to offer coaching courses in Olympic sports?
- Can you predict AIAW team handball championships and NCAA field hockey championships?
- Can you imagine national governing bodies managed by persons educated in sport theory and management?
- Finally, can you look into your crystal ball and see thousands of people of all ages involved in sport at a self-satisfying level — wheelchair students playing basketball, roller-skating stars practicing at the local rink, adult athletes competing in the Master's programs, and young adults striving for athletic excellence — all reaching for human excellence? That is the ultimate goal, is it not, for both physical education and the Olympic Movement.

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RECORDS ARE MADE — TO BE BROKEN

Harold T. Friermood

Just before the US Olympic Team departed for Finland to participate in the 1952 Helsinki Games, the City of New York gave a goodwill sendoff with a lower Broadway parade and public reception at the City Hall. Avery Brundage, soon to be elected president of the International Olympic Committee, spoke from personal experience as a sports competitor when he addressed the great crowd assembled to pay respects to the American team.

> All of us are proud of this fine group of young men and women who will soon be joining others from many countries of the world in a great festival of sport. Not one of this group had his or her place on the team *given*; not one could *buy* a place; each one had to *earn* a place on this team. We congratulate them all for their hard work, perseverance, and mastery of skill. We believe their sincere efforts serve as an example to all Americans. We wish them well as they participate bravely in the Games of the Fifteenth Olympiad.

These champion athletes flew to Finland and made their records. Bob Mathias, more mature, exceeded his London performance where, four years before, as a 17-year-old high school graduate, he had been extolled as the decathlon champion. In Helsinki he again won this grueling 10-event contest with a higher score than before.

The Rev. Bob Richards, pole vaulter, stayed in competition until the large field of entries had been reduced to a Swede, a Russian and himself. As the bar moved up, the Russian was successful on his first trial. Bob, with his big, friendly smile, dashed over and congratulated him warmly. Bob missed his next two attempts but cleared the height on his crucial final trial. The bar was raised again. This eliminated the others but Bob was successful and he won the event. With no inhibitions to curb his elation, he jumped up and down with joy and waved wildly to the crowd. The Russian vaulter shook Bob's hand in congratulation, then, picking Bob's pole from the ground, he placed it in the rack near the runway. The great throng of 70,000 spectators applauded the new champion, the new record and the simple act of genuine congratulation and courtesy.

Four years later, in the 1956 Olympic Games in Melbourne, Richards' experience and reputation drew many competitors around him on the practice field. His generous nature was sorely taxed as vaulters from many countries crowded around him to ask questions. When language failed, he demonstrated: how he gripped and carried the pole, marked the starting and intermediate points of his run, plunged the pole, etc. He did this because he believed that a champion, having set a record, had a responsibility to help others do their best and set their own records.

Emil Zatopek, Czechoslovakian winner of the 10,000 meter race in the 1948 London Olympics, repeated this triumph in Helsinki and added the 5,000

meter and the marathon run to his gold medals already won. He established new records in each event. Working on an assignment for the American Medical Association, Arthur H Steinhaus, a professor and exercise physiologist, taped interviews with athletes to secure their views on training, diet, motivation and human interest items for AMA radio programs. Steinhaus learned that Zatopek's stamina and superb condition were due to him running 18 to 20 miles every day through forests and mountains. When asked about his fast pace and speed, he grinned slyly and replied, "my wife is also an athlete. She just won the women's Olympic javelin throw. You see I have to run fast to keep ahead of my wife's javelin."

Wilma Rudolph, sickly and unimpressive as a child, through encouragement and good coaching, qualified for the 1960 Rome Olympics and became the women's dash sensation.

Much earlier, Glen Cunningham, with legs burned and crippled, trained determinedly and after years of effort became an outstanding middle distance runner.

Records of Many Kinds

An article in the August 1975 issue of *Reader's Digest* relates the story of John Baker of Albuquerque, New Mexico, who joined the high school track squad to induce his friend, a talented runner, to also become involved. John made surprising progress and developed into a class runner in college. Following graduation, he took a teaching job at an elementary school to work with young people and to continue training for possible participation in the 1972 Olympics. After experiencing good results in his teaching, he had a rapid health deterioration diagnosed as cancer. He considered suicide, but remembering how he had taught his pupils to do their best, he decided to live out his remaining, short life span and continue to teach. This decision reestablished his poise and sense of direction. To his duties he added a new commitment — a sports program for handicapped children. Thanks to Baker, the children in this program no longer stood on the sidelines but assumed positions of importance as timekeepers, equipment watchers and foul line supervisors. Each was eligible to earn a "Coach Baker's ribbon" for trying hard and each wore an official jersey. Grateful parents remarked about the changes taking place in their handicapped children.

Baker was asked to help coach a small Albuquerque track club for girls, from elementary through high school age. The girls responded to his encouraging, individual methods and became a club of distinction. The team's record supported its entry in the national AAU championship in St. Louis. Although too sick to make the trip, Baker made a personal phone call to each girl, urging her to do her best. He died before the championships, but the girls' team won in St. Louis, "for Coach Baker." In grateful recognition and in memory of him, the school's name was changed to John Baker Elementary School. He had achieved a record by transforming tragedy into an enduring legacy.

During the National Olympic Academy Session III conducted by Brigham Young University in June 1979, Curt Brinkman told about his experiences as a double amputee winning the International Wheelchair Olympics and being the record holder in the wheelchair marathon. His determination and indomitable spirit, supported by understanding and encouragement, made his success possible.

Midway through Thomas K. Cureton's illustrious directorship of the University of Illinois' Physical Fitness Research Laboratory, he had a serious accident. Most persons would have been permanently disabled, but because of his belief in the human body's recuperative ability, his application of scientific knowledge of therapy and exercise, and his irrepressible will, he made a remarkable recovery. He has continually demonstrated his belief in movement education and its sustaining powers through his personal involvement in sport competition. When past 75 years of age, for example, he won several gold medals in the Illinois State Governor's Program in the senior citizen age class.

What are records? Why are they important? Do they have a significance beyond sport and athletic performance?

Can we expect indefinite progress or have we reached the limits of human performance? The 4-minute mile was considered impossible until conquered by Roger Bannister in 1954, and the Russian ice hockey team seemed unbeatable until its defeat by the U.S. team at the 1980 Winter Olympic Games.

What do we believe *is* progress in relation to athletic performance? Some account for progress in terms of:

- Equipment — new materials, track surfaces, safer landing pits that enable athletes to land from greater heights (high jump, pole vault), more precise measuring and timing devices, better uniforms
- Training — conditioning, testing, specific attention to athletes' personal needs and development, sport medicine
- Coaching — greater attention to individual needs and differences, motivational techniques, cooperation with other professionals (physiologists, psychologists, sociologists) in dealing with athletes as individuals and as members of teams
- Athletes — better informed and more aware of what is going on, cooperation in their own training programs
- Research programs — use of picture analysis of individual performance to determine most efficient use of the body's physical structure, application of power, leverage, angle of trajectory; body composition, body type in relation to sport involved and most efficient performance

Without moving deeply into some of the philosophical considerations, the

above questions and comments may suggest some of the objectives and boundaries of Olympic participation in keeping with the Latin challenge of:

Citius — Faster, Quicker
Altius — Higher
Fortius — Stronger, Braver

They might also provide parameters of seeking, striving and progressing in all segments of human endeavor. As physical educators working cooperatively with professional colleagues in related disciplines, are we helping our clients, especially young people, to explore themselves and their environment, to set worthy goals and apply their energies and abilities to make the world a better place in which all can live purposefully?

As the broad field of human endeavor is viewed, accomplishments and records of many kinds are noted: in literature, medicine, business, art, music, technology — as well as in sport, physical education and the art and science of human movement. In all of these strivings there is a reaching out and a stretching to do better. This urge is stimulated by what has already been accomplished — a record of achievement. This thought is expressed by Robert Browning in "Andrea del Sarto."

> A man's reach should exceed his grasp,
> Or, what's a heaven for?

In the American Academy of Physical Education, may we as individuals and as a group keep pushing on. May our hopes and expectations always exceed our grasp.

R. Tait McKenzie Memorial Lecture:

THE SPIRIT OF THE OLYMPICS VERSUS BOYCOTT

Irving I. Dardik

As I have observed the current Olympic crisis, what has impressed me most has been the indescribable emotional feelings which have surfaced. It appears that those unfamiliar with the Olympic Games narrowly view them as just that — Games — international sports as usual — Games that can be maneuvered. My own gut feeling is that we *should* go to Moscow. Although it is difficult to verablize why, I was determined to explore what many vaguely refer to as the Olympic ideal — the Spirit of the Olympics, in search of an answer. This Spirit provided the answer . . . and more!

This essay represents to me an absolute justification of what must be our inalienable commitment to protect the Olympic Movement and to attend the Olympic Games in Moscow.

There are various ideas and philosophies that attempt to interpret the Olympic Movement. They are expressed in wonderful words — sportsmanship, peace, friendship, pursuit of excellence, nobility, honor. But it is so difficult to match these ideals to the realities of the modern world's struggle to survive — terrorism, tyranny and threats of war appear so eminent, so tangible. Add to that the many problems the Olympic Movement itself faces besides drug abuse and politics. Recently a *New York Times* columnist in favor of the boycott was even critical of the ancient Greek Games. He described what he considered to be the corruption of the ancient Greeks, as city-states paraded their wealth and made a spectacle of the Games. He wrote of how truces were violated, how athletes bellyached that the awards of olive wreaths were of no values except to goats and how the states subsidized athletes in the Games. The editorial was shamefully entitled "The True Olympic Spirit," and it ended, "athletes cheated something awful."

I wondered, is not our own country, like the Olympic Games, based upon certain principles and ideals? Do not we as a nation encounter major internal problems? Yet we stand by our country precisely *because* of its principles and ideals. I wanted to identify a common link that would apply equally to the problems contained within the Olympic structure and to the relationship of the Olympic Movement to the world — i.e., is there a common justification for preserving the integrity of the Olympic Games that a free nation cannot afford to ignore? I believe there is. Recently I visited ancient Olympia in Greece, and as I wandered about the ruins, I wondered how often the ancient Greeks feared for the future of their own Olympic Games. I realize, of course, that they had done very well. They lasted almost 1,200 years. What made that possible? What was the core of their Games? We know that the Games themselves were the core of

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Greek society as a whole. Pindar wrote about the Olympic Games; Draxitales sculpted ideal athletes; Plato and other philosophers and educators attended and taught at the Games.

What made the Olympics a model for Greek life and thought? There were three features really — the idea of a truce, the idea of amateur participation and the idea of natural law.

Truce

The truce provided for a cessation of military hostilities between participating states, and a guarantee of safe passage for athletes and spectators during the Olympic year. It is an ancient provision antedating and contributing toward the formation of the federation of Greek city-states. Bear in mind that we are talking about warlike peoples. The fact of this truce has lead to the current misconception that the ancient Games were, and the Modern Games still are, a festival celebrating peace and goodwill. I did not find this to be the case. Were that so, the Games could never have been held in ancient Greece and certainly in our times hardly at all. There were many violations of the truths, but even as these violations occurred, the Games continued. A guaranteed quadrennial celebration of peace would certainly be desirable. The Greeks tried through truce to accomplish just that. It gave them something to strive for. But Greek civilization was not ready for total peace then nor is our civilization now. Yet we must continue to strive for this noble goal.

In the light of the current crisis in Afghanistan, I recently proposed that the ancient tradition of the quadrennial truce be reevaluated by the International Olympic Committee and the United Nations. What international event would be better suited to easing, rather than contributing to, world tensions than the Olympic Games?

Amateurism

The second feature of the Olympic Games which enabled them to survive for so long was the idea of heightened amateurism. They were founded on principles of individual participation untainted by mercenary objectives, and led to a simple crown of wild olives and the title "first amongst the best." This concept of amateurism held great spiritual power for the ancient Greeks as it should and does today. Can we forget the overwhelming feeling we experienced at the 1980 Winter Olympic Games with the victory of our hockey team? We all shared in their excellence. It wasn't so much that we beat the Russians, but that we were asking ourselves how did this bunch of kids beat the best organized professional style hockey team in the world? How did they pull it off? How did *America* pull it off? Perhaps it was their pioneering spirit — you know we all felt freedom at work. These rank amateurs took us back two centuries and gave us pride as free people. No fear. No anger. No withdrawal. No backing off. And we exulted in that liberty, momentarily pure, nevertheless lasting. That is the spirit of the Olympics as it is the Spirit of America.

In ancient Greece, the idea of amateurism was radical. "What kind of men are these," a Persian army officer asked his king, "that you are leading us against, who compete not for gold but simply for glory?" I don't want to give you the impression that athletes then, as now, were not interested in gold. I am not advocating naiveté as a survival strategy. But the value of an ideal — personal or institutional — lies in striving to attain it, knowing all the while that people are human. This is particularly true of an institution like the Olympic Movement which is committed to having faith in human potential.

Natural Law

The third, and perhaps most important, if least recognized, feature of the ancient Olympic Games was the idea of natural law which they embodied and which may even have been a model for Greek civilization as a whole. Natural law, according to Webster, can be defined as "a rule of conduct founded on the natural ethics of man or nature, and considered to be morally binding in the absence of formal law." The Olympic spirit was not transmitted across the centuries by a mass of written law and regulations. It was an ideal that has been a legacy to the modern Olympic Games.

We are beginning to return to this concept of natural law, to the sense of the whole of the integrated personality, of body and mind working together in the natural environment. This idea that all men possess inherent freedoms as individuals to express themselves was central to the Greek Olympic Games and their philosophy. It is what Socrates died for and forms the basis of modern democracy.

The 18th Century Enlightment of which Thomas Jefferson was so glowing an example was founded on the reinvention and elaboration of classical Greek democracy. The Declaration of Independence itself presents an affirmation of law. "We hold these truths to be *self evident* [natural law] . . . that all men are created equal." The Declaration of Independence and the principles of the Modern Olympic Movement speak the same language. Both are aspirations to freedom and human rights; both are a struggle — one of a nation, the other of a supra-national institution.

Chief Justice Louis Brandeis once said, "America has believed that in differentiation, not in uniformity, lies the path of progress, and that is the direction that we are taking." Is that not another way of stating the natural law of individual freedom? In short, the individuals emerging in our super-industrial society have the opportunity to be free and to develop their natural potential of body and mind as never before.

But the natural law of freedom demands responsibility and ethical choices. Let us take an example from sports medicine. Research in medicine and science has yielded great progress in recent decades. Many diseases have been controlled as well as eradicated. New chemicals and drugs continue to be developed. Genetic engineering offers great potential in enzyme, hormone, and drug manufacture. But the potential for harm and abuse is also there. Do we

create the superhuman or the super-athlete? We must be aware of the implications. It is not merely that an athlete violates an Olympic ideal or breaks a law, it is that the athlete violates himself, his own freedom — freedom to aspire to excellence; that is the Spirit of the Olympics. And it is not the athletes alone who are responsible for abuses, but physicians, scientists, coaches and educators — all of us unless we provide knowledge with understanding along ethical lines as we deal with each other, as nations would deal with nations, and as we should deal with our environment.

"All we require," says John Sawhill, president of New York University, "is a well-integrated and ethically based approach to problem solving. It is only in this way that we can prepare for the future. We have proceeded as if the ability to lead materially better lives would automatically enable us to become better people. Perhaps it is the other way. It may be that we must learn to be better people in order to realize the full potential of science and technology". Is this not, again, the whole man of ancient Greece — man, with strength and wisdom, body and mind? No different today!

Of course, ethical idealism can go only so far. However, though it can solve none of the world's problems, it can establish indispensable conditions for looking at those problems. Similarly, the International Olympic Committee, the Olympic Games and the Olympic Movement play an indispensable role in this world of instability.

Need for Global Cooperation

In an age of super-industrial revolution, there remains great disparity of economic, political and social standards among the nations of the world. This disparity often leads to polarization and conflict — and the problems seem to be accelerating. No longer can we view people solely as citizens of a particular country; we must also view them as citizens of the world. The global system consists of a highly volatile mixture of democratic, semi-democratic and authoritarian nation-states. At this one-world level, there is a serious lack of intenational regulation and control, strength, respect and mutual cooperation. The only way to develop cooperation is through stable super-national systems and organizations. As James Grier Miller said, "I take the position that supra-national systems, limited as they are today, and newer than systems at any other level, do constitute a level as a living system *above* that of the society." The United Nations and the World Court are such super-national systems, as are NATO and the Warsaw Pact.

Yet another form of super-national organization that has recently become very important concerns itself with environmental resources. The global interdependence of climates, sea resources, energy resources and food supply are such that one nation's unilateral decisions may adversely affect others. Currently, the United Nations Law of the Sea Conference is finalizing an international treaty regarding pollution, marine research, mineral mining rights, whale protection, ship and air rights, none of which has ever been usefully regulated at the national level. A recent editorial heralded this treaty as "a boon

to mankind's 'common heritage' that would prevent a free-for-all among nations . . . . There is a grandeur of purpose in this enterprise that warrants real celebration and reflection, not self-serving propaganda about some parts of an imposing whole. The world may soon have before it a virtual constitution for the ocean drafted with the help of a persistent American diplomacy".

I emphasize the supra-national organizations because we can no longer underestimate the extent of their critical impact on the future of the world. But they will fail unless ethics and ideals are their guides.

The International Olympic Committee and the movement it embodies represent just such a supra-national organization — an institution ultimately based not on material value but on human hopes and aspirations. Do not ask for written guarantees or visual confirmations. The Spirit of the Olympics rests within the hearts of people — easy to disparage but impossible to destroy.

The fact that another nation may not profess Olympic ideals should come as no surprise to us. The best way to allow the Olympic Movement to play into the hands of a totalitarian government is to walk away. If we do not stand up for freedom and tell it as it is, then we must *use* freedom, no matter where, by allowing each athlete to demonstrate it in the field. The Games and each athlete participating in them are highly inconsistent with totalitarian and authoritarianism. This is what we should be talking about. This is what we should be promoting worldwide.

Boycott? No!

It is being suggested that anything less than a total American boycott of the forthcoming Olympic Games in Moscow will compromise our country's national security by providing a forum for Soviet propaganda. Why do we fear such propaganda? Do we feel freedom will suffer because of it? Inherent in our nation's philosophy is the principle of laissez faire, usually associated with economics. But there is also the *free marketplace of ideas*. Let freedom confront totalitarian propaganda. What better arena is there for this contest than the Olympic Games . . . Jesse Owens knew!

We must not sacrifice, even potentially sacrifice, an instrument of liberty to attempt to achieve personal security. Benjamin Franklin in 1779 said, "they that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety." We must use whatever political, economic and even military means necessary to preserve the freedom of this country. But by restricting liberty elsewhere we surely risk restricting liberty at home.

There can be no greater threat to our national security than a denial of use of our own principles of freedom. To boycott and encourage other nations to do so is an indication that we seek to tear assunder a supra-national organization dedicated, as is our own nation, to the Spirit of the Olympics and to freedom. Any system, be it a nation or a supra-national organization, requires, *demands* really, the structural integrity and participation of its member states in order to

function and thrive. Abraham Lincoln recognized this fact. When challenged by Horace Greeley who insisted that slavery was the principle issue of the Civil War, Lincoln replied, "I would save the Union . . . My paramount object in this struggle is to save the Union." In his wisdom, Lincoln affirmed the significance of structural stability as an indispensable prerequisite for an ongoing system.

We have seen how the foundations of our national character and of the Olympic movement are identical. How, then, can an affirmation of the Olympic spirit in holding Olympic Games *anywhere* be construed as a threat to our national security? Are we, in effect, boycotting freedom? Let us put the Olympic Games to use for what they represent and for what they mean: freedom of the individual, observed in each event and within every individual. We have nothing to fear by affirming freedom before any nation. The assertion of freedom is our greatest protection, our deepest security. As Archibald MacLeish said, "The true test of freedom is in its use. It has no other test." This is the way in which I have come to look upon the Spirit of the Olympics, not as "business as usual" but with awe and respect. I do respect the rights of others to feel and speak differently. I feel that individual freedom is the true spirit of the Olympics and of America. I hope it will become a universal reality.*

* * * *

But perhaps at this time, the world, with all of its problems, is not ready for the Olympic Movement; even more so, perhaps it is the other way around: perhaps we and the Olympic Movement are not ready for the world.

The Olympic Games is an instrument of freedom. How we use that instrument is what we voted on yesterday — and we voted no confidence, not only because the realities of the world would not permit it, but also because we weren't ready. Therefore, we must understand, rebuild and promote the true nature of the Olympics — the Spirit of Olympism — freedom. Had this message to the world been strong enough, neither the USSR nor any other totalitarian government could have propagandized on the Games. Nor would the question of our boycotting an instrument of freedom have arisen.

We must move forward and understand the true nature and purpose of the Olympic Movement and let the world know what it represents. Only then can the Olympic Games be used as an instrument of freedom aspiring to ultimate peace.

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*A few weeks after delivering the above address and after further deliberation by the United States Olympic Council on Sports Medicine, Dr. Dardik submitted to the Academy the following addendum.

APPENDIX

NEW MEMBERS OF THE ACADEMY
1980

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Ted A. Baumgartner
Charles B. Corbin
Barbara L. Drinkwater
M.J. Ellis
Antoinette M. Gentile
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Rainer Martens
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James S. Skinner

Associate Fellow:

Lawrence W. Green

Corresponding Fellows:

Peter J. Arnold
Walter W. Morford

Recipients of Citations:

Council for National Cooperation in Aquatics, Inc.
The Cooperative Research Project,
United States Forest Service

Recipients of Awards:

Ernest Degutis
Vern D. Seefeldt

Recipient of the Hetherington Award:

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AMERICAN ACADEMY OF PHYSICAL EDUCATION
May 1980

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1976-77 MARVIN H. EYLER
1977-78 LOUIS E. ALLEY
1978-79 MARGUERITE A. CLIFTON
1979-80 HAROLD M. BARROW (CURRENT)
1980-81 AILEENE S. LOCKHART (ELECT)

*Deceased